



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBD412-729-041
Job Sheet 171424



000405

Part No: RBD412-729-041

Job Qty: 1 ea

Part Name: Ground Handling Wheels Fits LH or RH (Hydraulic)



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/1/18

Job Tracking No:

Due Date: 2/1/18

Created By: Linda Lacelle

Type: Stock

Description:

Note: DWG RBD3233-041 REV 2 , RBD3330-041 REV 2 , RBD412-729-011 REV 2 IPP Rev.A 17.07.03 New issue
DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	1 pcs		1/31/18	0.00	0.00	Purchasing		AT 18/02/01
120	Packaging	1 pcs		1/31/18	0.00	0.00	Packaging2		AT 18/02/01
130	QC	1 pcs		1/31/18	0.00	0.00	QC6		38
131	Small Fab	1 pcs		2/1/18	0.00	1.00	Small Fab-3		MCL 9-00 DAS
132	QC	1 pcs		2/1/18	0.00	0.00	QC5		38
140	Packaging	1 pcs		2/1/18	0.00	0.00	Packaging3-1		77.10 9-00
150	QC21-SA	1 Ea		2/1/18	0.00	0.00	QC21		21 9-00

Part Op 100 - Issue P/O to Metec : 36954 Machine as per dwg RBD412-729-041 C of C is required
Descriptions: 131 - 1-Transfer drill placard debur holes. 2-Engrave placard using Marktronic 3-Rivet placard 4-Install labels

02/18/02/01 X1

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBD412-729-041P	Ground Handling Wheels Fits LH or RH (Hydraulic)	1 pcs (1 ea)	100-Purchasing	5038098
MS20600-AD4W3	Cherry Rivet	8 Ea (8 ea)	131-Small Fab	
RB41011	Dart Tooling Placard, Aluminum	2 Ea (2 ea)	131-Small Fab	
RBD3309-1	Label, Remove Before Flight	2 Ea (2 ea)	131-Small Fab	
RBD3309-3	Label, Grease Slides	2 Ea (2 ea)	131-Small Fab	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	RBD412-729-041P	1	0	0
131-Small Fab	MS20600-AD4W3	8	179	0
	RB41011	2	953	0
	RBD3309-1	2	10	0
	RBD3309-3	2	10	0

Part Specifications

Specifications could not be found.

DART
AEROSPACE
S038143



Ground Handling Wheels

Fits LH or RH (Hydraulic)
RBD412-729-041

Purchasing

PART NO:
Original Serial #:
Revision:
Operation:
Change No:

Mfg Date: 02/01/18
Job No: 171424

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Work Order ID 163760

Friday, July 07, 2017 8:24:11 AM

163760

Page 1

Item ID: RBD412-729-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Ground Handling Wheels Fits LH or RH (Hydraulic)

Start Date: 7/7/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 8/21/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: **DAS 13 9-89** Date: **JUL 07 2017**

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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RBD3233-041	2
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RBD3330-041	2
-------------	---

RBD412-729-011	2
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110

Outsource process - Machining

0.00

110

HAAS CNC VERTICAL MACHINING #1

Outsource5

Memo

336.00

Outsource process - Machining

Issue P/O to Metec : **36956**

Machine as per dwg RBD412-729-041

C of C is required

JUL 07 2017**DAS 13 9-89****NJB 17/07/07**

120

Receive & Inspect for Damage & Mat'l Certs

0.00

120

Packaging

Memo

0.02

Packaging

Ensure C of C is attach

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

Work Order ID 163760***163760***

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Friday, July 07, 2017 8:24:11 AM

Item ID: RBD412-729-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Ground Handling Wheels Fits LH or RH (Hydraulic)
Start Date: 7/7/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/21/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC6- All purchased or subcontracted products Memo	0.00 0.02							
140 *140* Packaging Packaging	Identify as per dwg & Stock Location: _____ Memo	0.00 0.01							
150 *150* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.10							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐								
		OTHER : _____							

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163760

RBD412-729-041

Required Date: 8/21/2017

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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1

Ground Handling Wheels Fits LH or RH (Hydraulic)

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

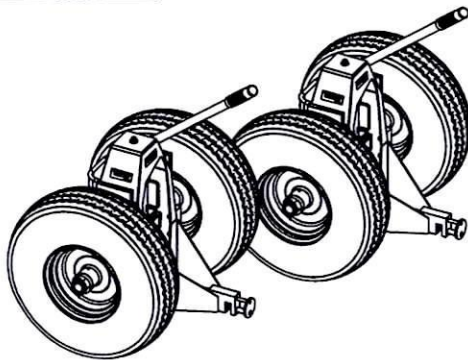
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Misidentified ☐	Past Due ☐																																																														

JUL 07 2017

DAS
13
9-88

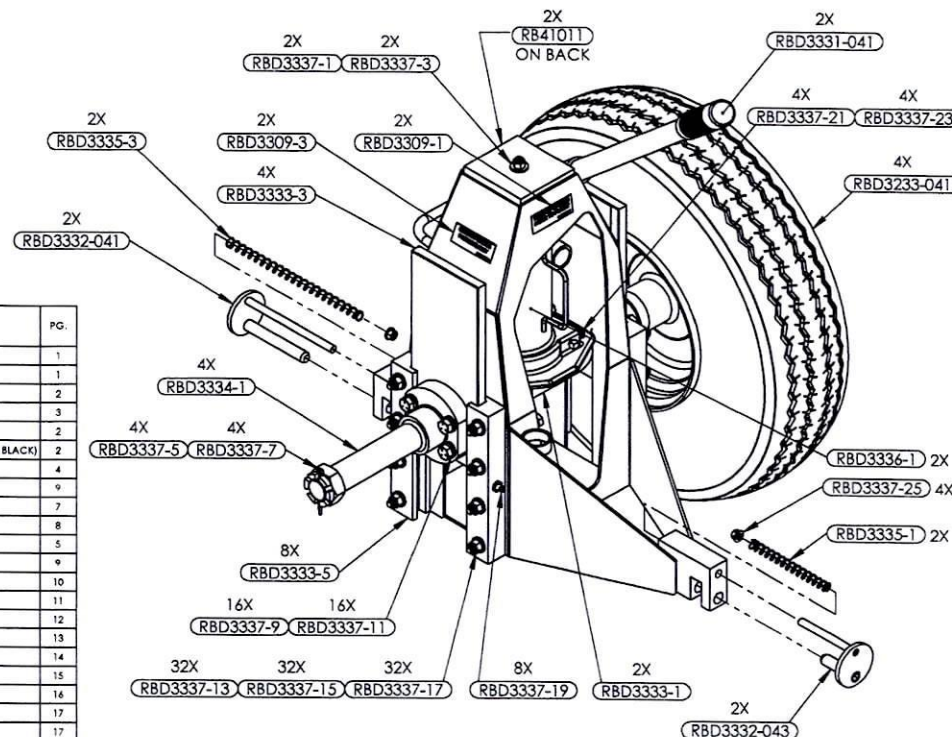
W10. 163760

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REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-1 DIM CHD WAS 21.000 IS 21.0. -5 CHD DO. WAS 0.332 IS .344.	6/18/2014	RJC	GE
2	16-0039	UPDATED TO NEW DRAFTING STANDARDS. CHD DWG NUMBER WAS RBD412-729-011 & RBD412-729-011. RBD3332-7 MOVED TO SEPARATE SHEET. RBD3332-9 MOVED TO SEPARATE SHEET. RBD3332-5 CHD DIM WAS .650 IS .640. WAS 1.200 IS 2X 1.200. RBD3332-6 CHD DIM WAS 0.334 IS 0.344. RBD3334-1 CHD DIM WAS 7.47 IS (7.47). RBD3334-3 CHD B/O WAS 1/4-20 X 01 IS 1/4-20 X 1. RBD3337-13 CHD DIM WAS 1-1/2 IS 1-3/4. RBD3309-3 MOVED TO SEPARATE SHEET. RBD3335-3 MOVED TO NEW SHEET. CHD PLACARD WAS RBD1009 IS RBD1011.	2/16/2016	SM	JAG

ASSY QTY	ASSY QTY	ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
					RBD3333-041	4	WHEEL ASSY			1
					RBD3330-041	2	FRAME WELDMENT			1
			X		RBD3331-041	2	HANDLE ASSY			2
			1		RBD3331-1	1	HANDLE	DOM		3
			1	B/O	RBD3331-3	1	DOWEL PIN	STEEL	Ø3/16 X 1 (MCMASTER-CARR # 98381A510)	2
			1	B/O	RBD3331-5	1	GRP	VINYL	FITS 7/8 IN OD TUBING X 4-3/4 IN LONG (MCMASTER-CARR # 97045K491, BLACK)	2
			X		RBD3332-041	2	PIN ASSEMBLY			4
	1	1			RBD3332-1		HANDLE	1018/1020 CR		9
		1			RBD3332-3		PIN	1018/1020 CR		7
		1			RBD3332-5		SHAFT	1018/1020 CR		8
	X				RBD3332-043	2	PIN ASSEMBLY			5
	1				RBD3332-7		PIN	1018/1020 CR		9
	1				RBD3332-9		SHAFT	1018/1020 CR		10
					RBD3333-1	2	BASE PLATE	4140/4142		11
					RBD3333-3	4	SLIDING PLATE	4140/4142		12
					RBD3333-5	8	RAIL	1018/1020 CR		13
					RBD3334-1	4	WHEEL SHAFT	4140/4142		14
					RBD3335-1	2	SPRING	STEEL	VICTORY SPRING # D3335 (MODIFIED)	15
					RBD3335-3	2	SPRING	STEEL	VICTORY SPRING # D3335 (MODIFIED)	16
	X				RBD3336-1	2	JACK ASSY		NORCO #76508 (MODIFIED)	17
1				B/O	RBD3336-3		STUD	STEEL	1/4-20 X 1 (MCMASTER-CARR #98750A011)	17
				B/O	RBD3337-1	2	NYLOCK NUT	STEEL	1/4-20 (MCMASTER-CARR # 95615A120)	1
				B/O	RBD3337-3	2	WASHER		1/4 (MCMASTER-CARR # 91081A129)	1
				B/O	RBD3337-5	4	SLOTTED NUT	STEEL	1-1/4 (MCMASTER-CARR # 95030A320)	1
				B/O	RBD3337-7	4	COTTER PIN	STEEL	Ø1/8 X 2 (MCMASTER-CARR # 9838A200)	1
				B/O	RBD3337-9	16	HEX HEAD CAP SCREW	STEEL	3/8-24 X 1-1/4 (MCMASTER-CARR # 92865A217)	1
				B/O	RBD3337-11	16	LOCK WASHER	STEEL	3/8 (MCMASTER-CARR # 91102A760)	1
				B/O	RBD3337-13	32	HEX HEAD CAP SCREW	STEEL	5/16-18 X 1-3/4 (MCMASTER-CARR # 91247A589)	1
				B/O	RBD3337-15	32	FLAT WASHER	STEEL	5/16 (MCMASTER-CARR # 90126A030)	1
				B/O	RBD3337-17	32	NYLOCK NUT	STEEL	5/16-18 (MCMASTER-CARR # 95615A160)	1
				B/O	RBD3337-19	8	GREASE FITTING	STEEL	1/8 NPT (MCMASTER-CARR # 1095K65)	1
				B/O	RBD3337-21	4	SOCKET HEAD CAP SCREW	STEEL	1/4-20 X 3/4 (MCMASTER-CARR # 91251A540)	1
				B/O	RBD3337-23	4	FLAT WASHER	STEEL	1/4 (MCMASTER-CARR # 91090A105)	1
				B/O	RBD3337-25	4	NYLOCK NUT	STEEL	5/16-24 (MCMASTER-CARR # 97135A225)	1
				B/O	RBD3309-1	2	LABEL, REMOVE BEFORE FLIGHT		SIGNS NOW	18
				B/O	RBD3309-3	2	LABEL, GREASE SLIDES		SIGNS NOW	19
				B/O		2	DART PLACARD	ALUMINUM	RBD1011	N/S
				B/O		1	CRATE		CRATE (14) 44 X 24 X 24, BPM-15 CERTIFIED (SPECIALTY CRATE)	N/S

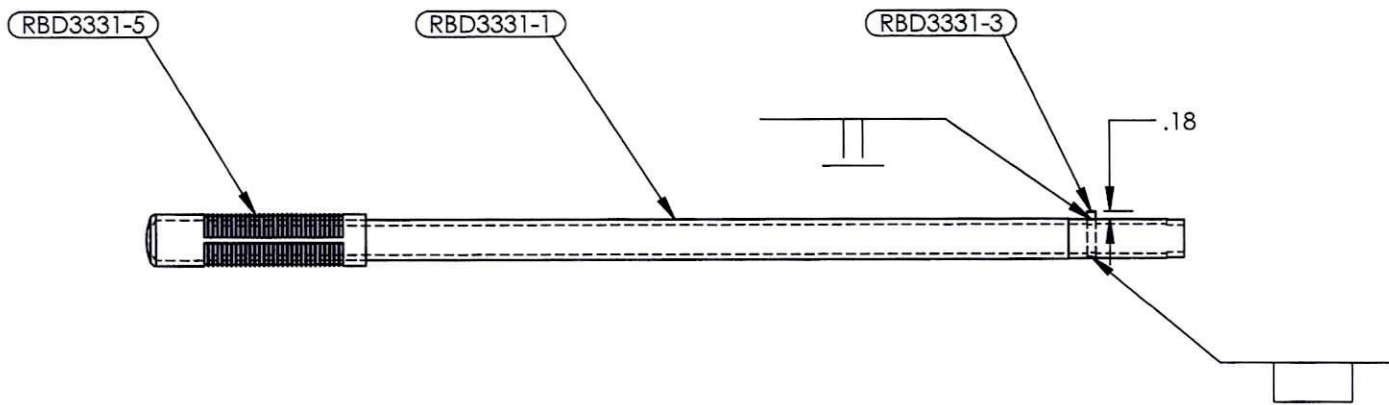


NOTE:
1) APPLY RUST INHIBITOR ON ALL PARTS AND AREAS NOT PROTECTED BY PAINT OR GREASE. RUST INHIBITOR POSSIBLE SUPPLIER: ACKLANDS-GRANGER INC., P/N LPSC30316.
2) USED ON BELL MODELS 204, 205, 212, 214, 412, UH1, 222, 230, & AH1.

DART AEROSPACE																												
TITLE GROUND HANDLING WHEELS																												
DWG NO. RBD412-729-011																												
REV 2																												
<table border="0"> <tr> <td>NAT'L</td> <td>UNLESS OTHERWISE SPECIFIED</td> </tr> <tr> <td>FRONT</td> <td>DIMENSIONS ARE IN INCHES</td> </tr> <tr> <td>FINISH</td> <td>.XXX ± .005 FRACTIONS ± 1/8</td> </tr> <tr> <td>SPCC</td> <td>.XX ± .01 ANGLES ± 5°</td> </tr> <tr> <td></td> <td>.X ± .1 SURFACES ± 1/32</td> </tr> </table>		NAT'L	UNLESS OTHERWISE SPECIFIED	FRONT	DIMENSIONS ARE IN INCHES	FINISH	.XXX ± .005 FRACTIONS ± 1/8	SPCC	.XX ± .01 ANGLES ± 5°		.X ± .1 SURFACES ± 1/32																	
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	.X ± .1 SURFACES ± 1/32																											
<table border="0"> <tr> <td>DRAWN BY:</td> <td>GILBERT</td> <td>1. BREAK ALL SHARP EDGES</td> </tr> <tr> <td>CHECKED:</td> <td>CLOUGH</td> <td>.015 ± .45° OR .51SR</td> </tr> <tr> <td>OPPS APPR:</td> <td>ANDERSON</td> <td>2. DIMENSIONAL LIMITS APPLY</td> </tr> <tr> <td>QA APPR:</td> <td>LINDSAY</td> <td>AFTER PLATING</td> </tr> <tr> <td>APPROVED:</td> <td>GILBERT</td> <td>3. INTERPRET DIM AND TOL PER</td> </tr> <tr> <td></td> <td></td> <td>ASME Y14.5M-2009</td> </tr> <tr> <td>SCALE</td> <td>1:5</td> <td>USED ON MODEL</td> </tr> <tr> <td>DATE</td> <td>3/15/2012</td> <td>SEE NOTE 2</td> </tr> <tr> <td colspan="2"></td> <td>SHEET 1 OF 19</td> </tr> </table>		DRAWN BY:	GILBERT	1. BREAK ALL SHARP EDGES	CHECKED:	CLOUGH	.015 ± .45° OR .51SR	OPPS APPR:	ANDERSON	2. DIMENSIONAL LIMITS APPLY	QA APPR:	LINDSAY	AFTER PLATING	APPROVED:	GILBERT	3. INTERPRET DIM AND TOL PER			ASME Y14.5M-2009	SCALE	1:5	USED ON MODEL	DATE	3/15/2012	SEE NOTE 2			SHEET 1 OF 19
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SCALE	1:5	USED ON MODEL																										
DATE	3/15/2012	SEE NOTE 2																										
		SHEET 1 OF 19																										

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

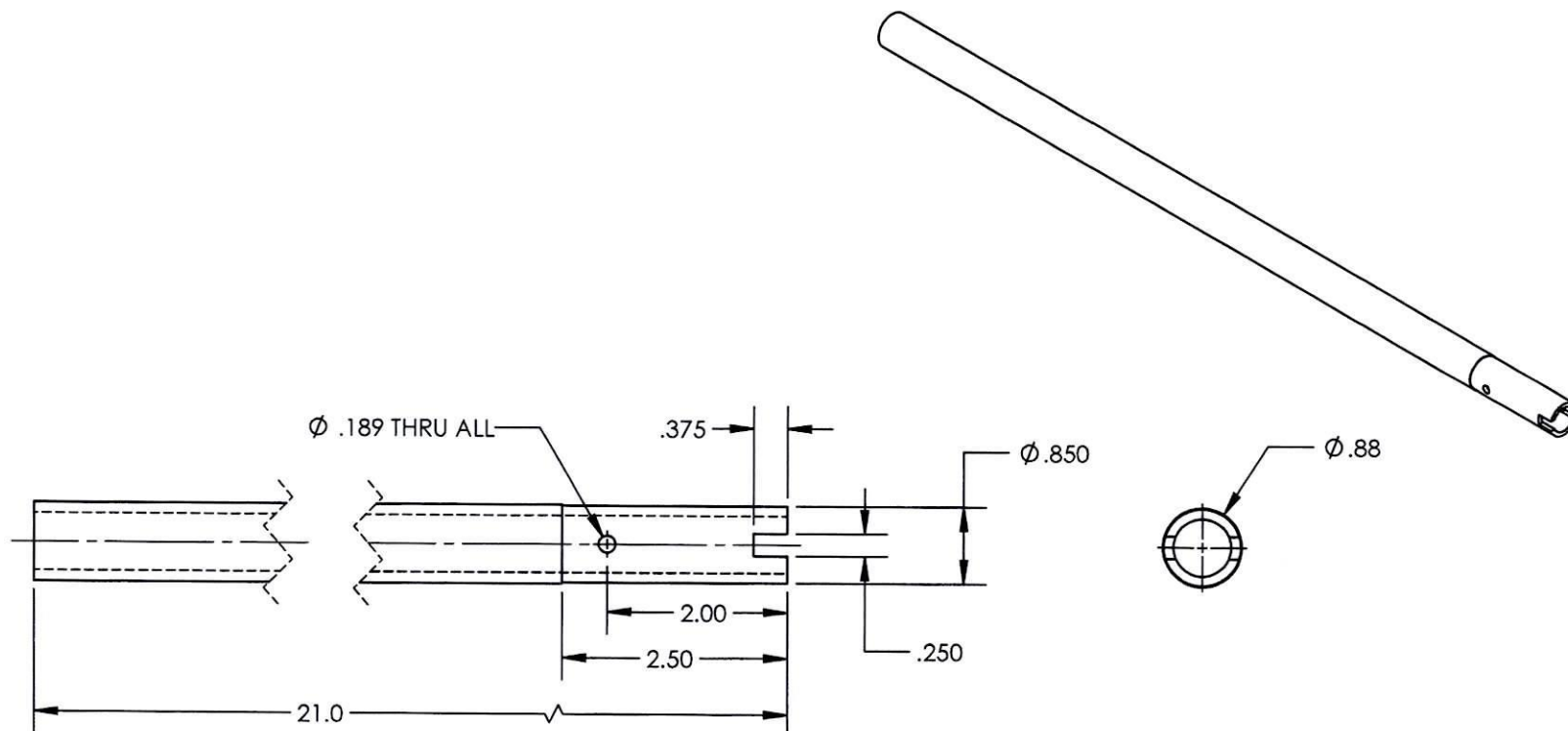


RBD3331-041
HANDLE ASSY

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3331-041	REV 2
MATL RECY TREAT FINISH SPEC DRAWN BY: CHECKED: OPPS APPR: QA APPR: APPROVED:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/√ 1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009 USED ON MODEL SEE NOTE 2 SHT 1
GILBERT	
SCALE 1:4	DATE 3/15/2012
SHEET 2 OF 19	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-1 DIM CH'D WAS 21.000 TO 21.0.	6/18/2014	RJC	GE

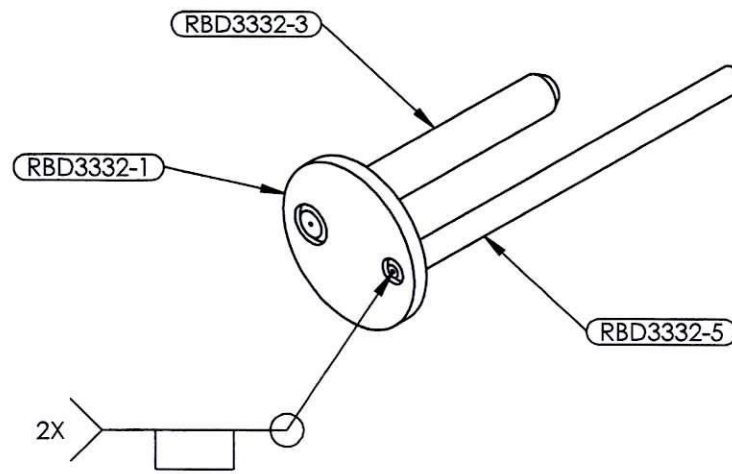
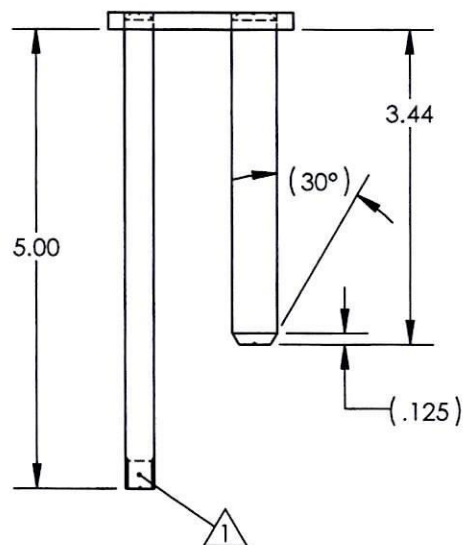


RBD3331-1
HANDLE

DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3331-1	REV 2
MAT'L DOM TREAT FINISH SEE RBD3331-041 SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:2	DATE 3/15/2012 SHEET 3 OF 19

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



NOTE:

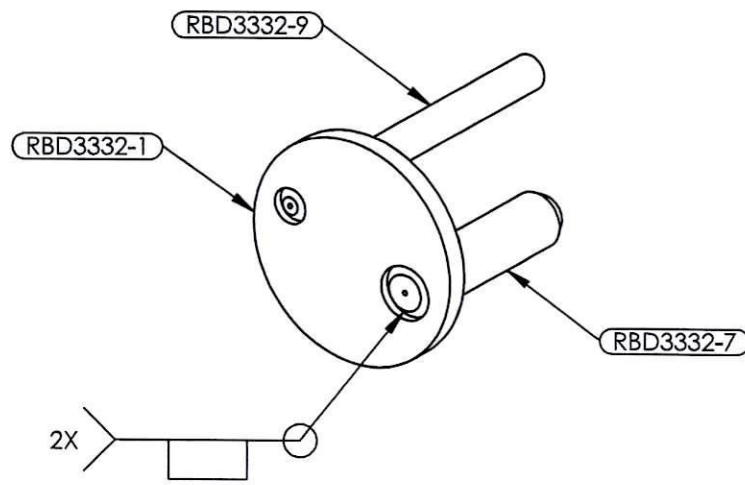
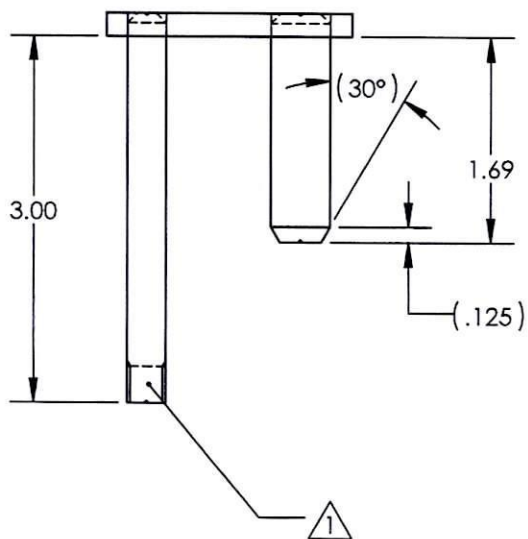
- 1) NO POWDER COAT ON THREADS.
- 2) POSITION PARTS USING D3332-041T1.

RBD3332-041
PIN ASSEMBLY

DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3332-041	REV 2
MAT'L TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± .5° .X ± .1 SURFACES = 125°
FED #13538	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
DRAWN BY: GILBERT	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
CHECKED:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
OPPS APPR:	USED ON MODEL
QA APPR:	SEE NOTE 2 SHT 1
APPROVED: GILBERT	
SCALE 1:2	DATE 3/15/2012 SHEET 4 OF 19

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



NOTE:

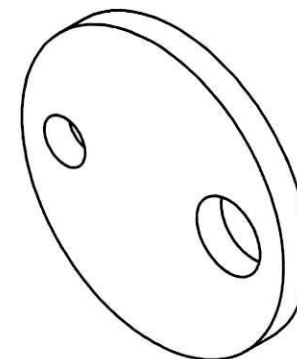
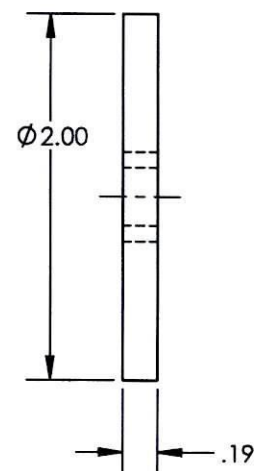
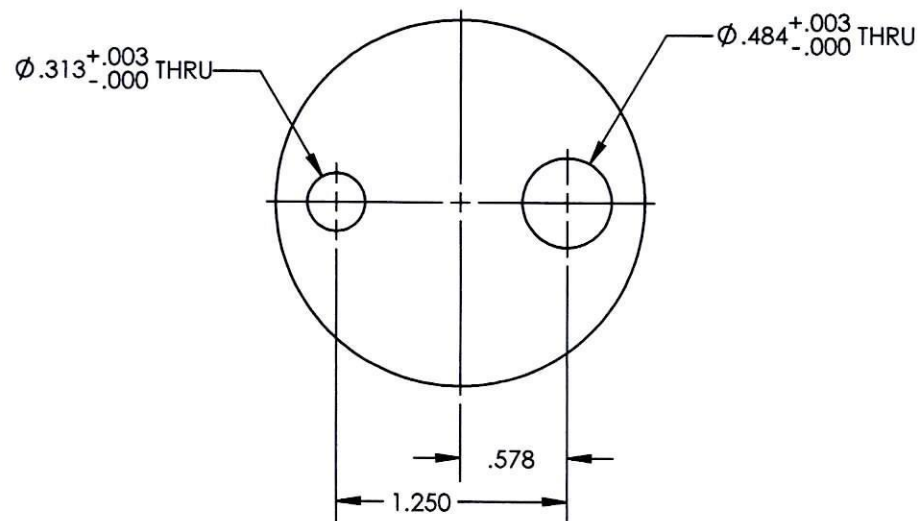
- 1) NO POWDER COAT ON THREADS.
- 2) POSITION PARTS USING D3332-041T1.

RBD3332-043
PIN ASSEMBLY

DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3332-043	REV 2
MAT'L _____ HEAT _____ TREAT _____ FINISH POWDER COAT YELLOW SPEC FED #13538	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
USED ON MODEL APPROVED: GILBERT SEE NOTE 2 SHT 1	
SCALE 2:3	DATE 3/15/2012
SHEET 5 OF 19	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED

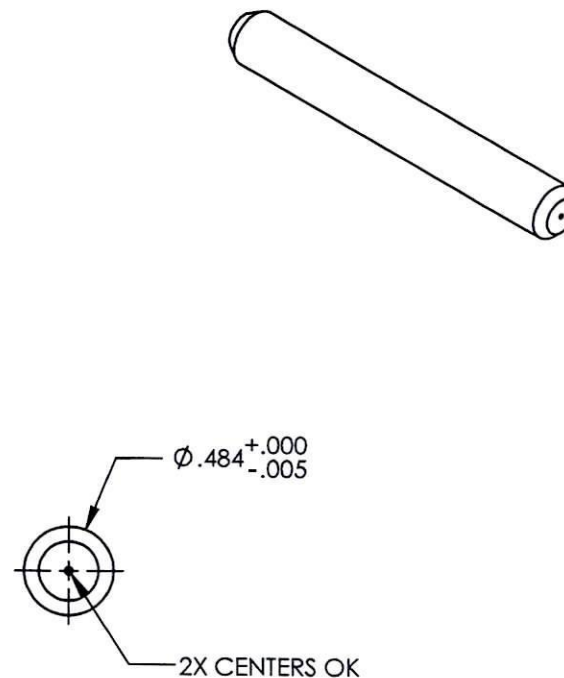
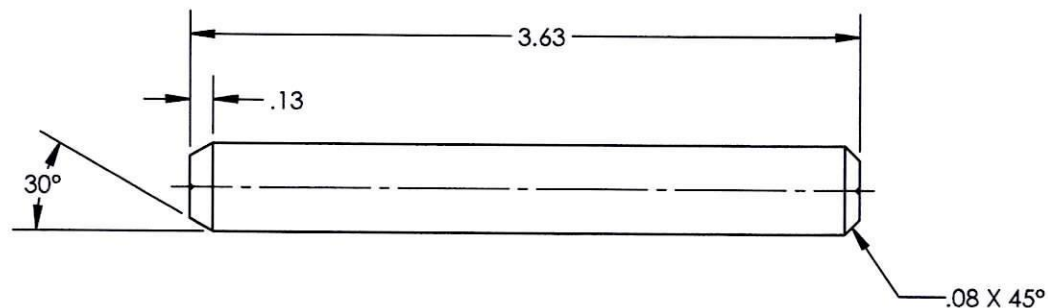


RBD3332-1
HANDLE

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3332-1	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX $\pm$.005 FRACTIONS $\pm$ 1/8
FINISH SEE RBD3332-041/RBD3332-043	.XX $\pm$.01 ANGLES $\pm$ 5°
SPEC	.X $\pm$.1 SURFACES = 125/
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .016R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:1	DATE 3/15/2012 SHEET 6 OF 19

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
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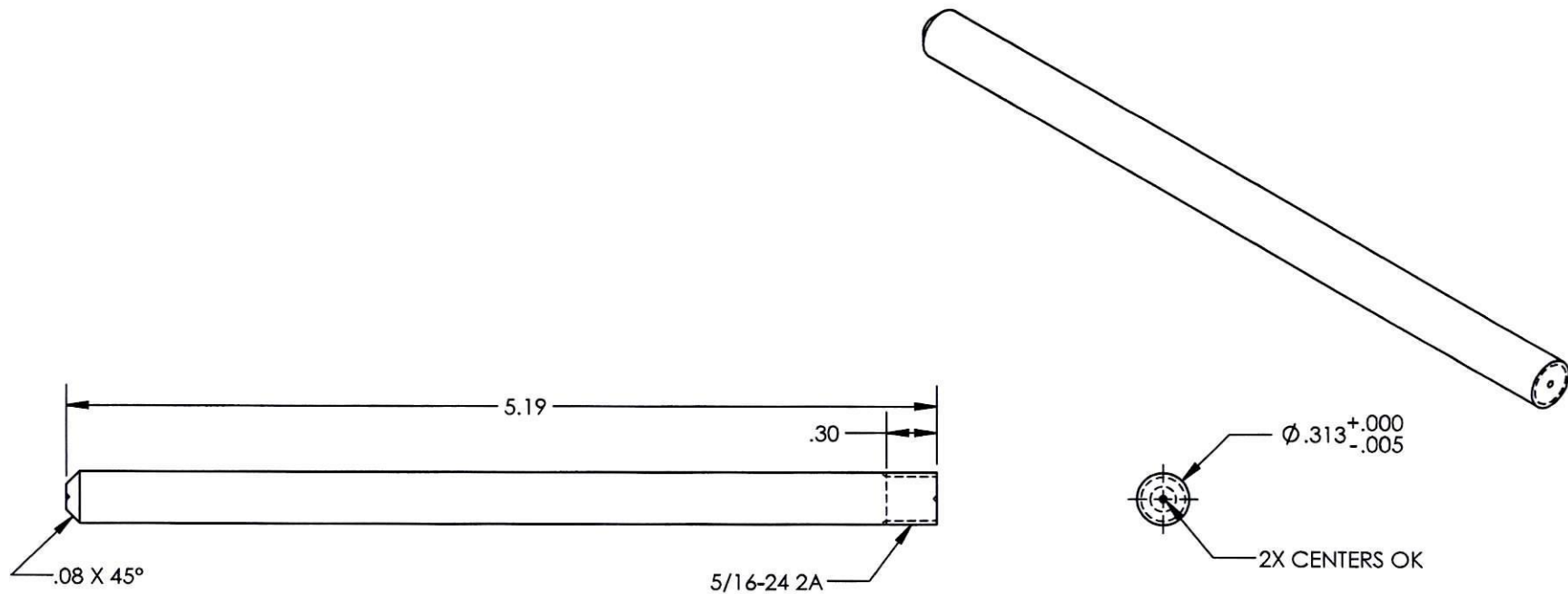
RBD3332-3

PIN

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3332-3	REV 2
MAT'L 1018/1020 CR HEAT TREAT FINISH SEE RBD3332-041 SPEC	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/	
1. BREAK ALL SHARP EDGES .015 X 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
USED ON MODEL	
DRAWN BY: GILBERT	SEE NOTE 2 SHT 1
CHECKED:	
OPPS APPR:	
QA APPR:	
APPROVED: GILBERT	
SCALE 1:1	DATE 3/15/2015 SHEET 7 OF 19

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REVISIONS					
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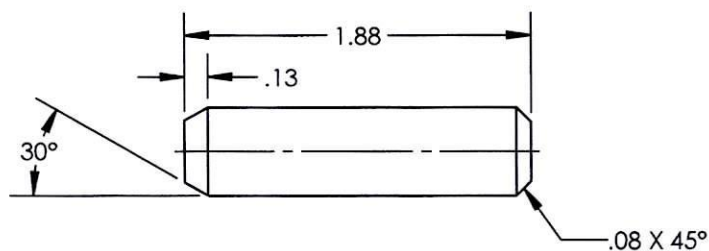
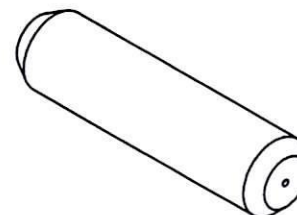


RBD3332-5
SHAFT

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3332-5	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH SEE RBD3332-041	.XX ± .01 ANGLES ± 5°
SPEC	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .016R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:1	DATE 3/15/2012
SHEET 8 OF 19	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0039	RBD3332-5 ADDED TO NEW SHEET.	2/16/2016	SM	JAG



2X CENTERS OK

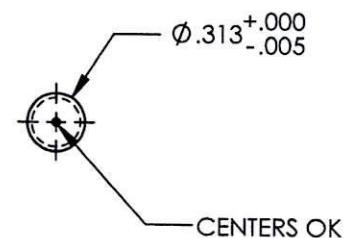
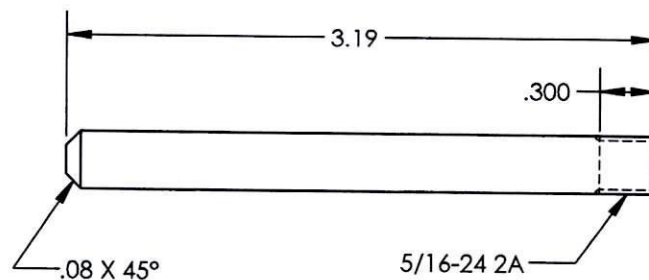
RBD3332-7

PIN

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3332-7	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH SEE RBD3332-043	.XX ± .01 ANGLES ± 5°
SPEC	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:1	DATE 3/15/2015 SHEET 9 OF 19

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REVISIONS					
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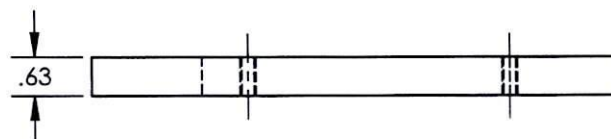
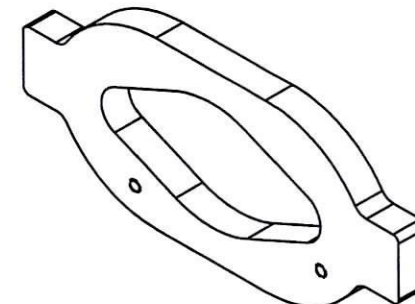
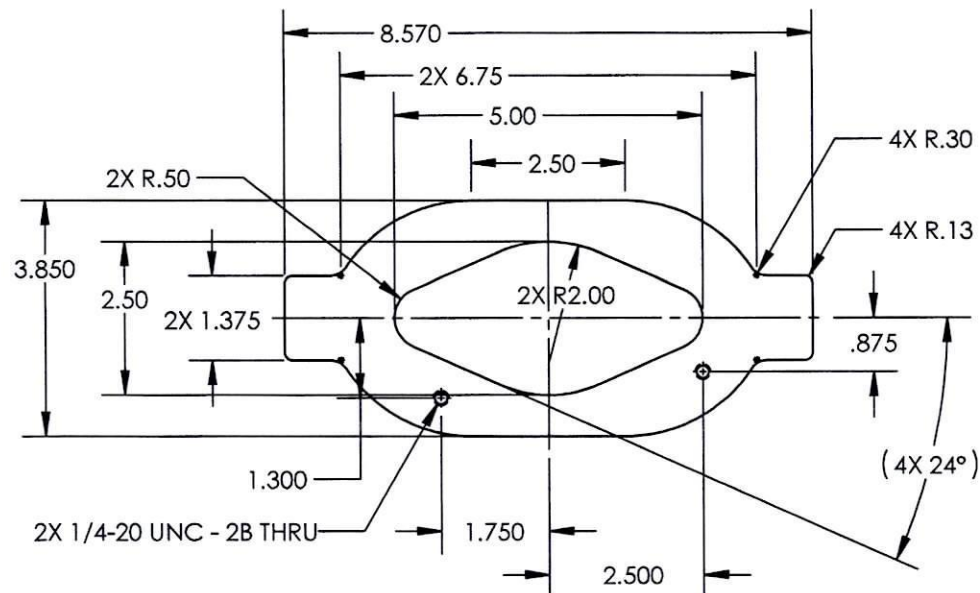


RBD3332-9
SHAFT

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3332-9	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH SEE RBD3332-043	.XXX ± .005 FRACTIONS ± 1/8
SPEC	.XX ± .01 ANGLES ± 5°
	.X ± .1 SURFACES = 125/
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES
CHECKED:	.015 x 45° OR .015R
OPPS APPR:	2. DIMENSIONAL LIMITS APPLY
QA APPR:	AFTER PLATING
APPROVED: GILBERT	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
SCALE 1:1	USED ON MODEL
DATE 3/15/2012	SEE NOTE 2 SHT 1
SHEET 10 OF 19	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED

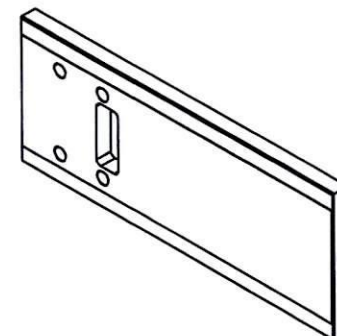
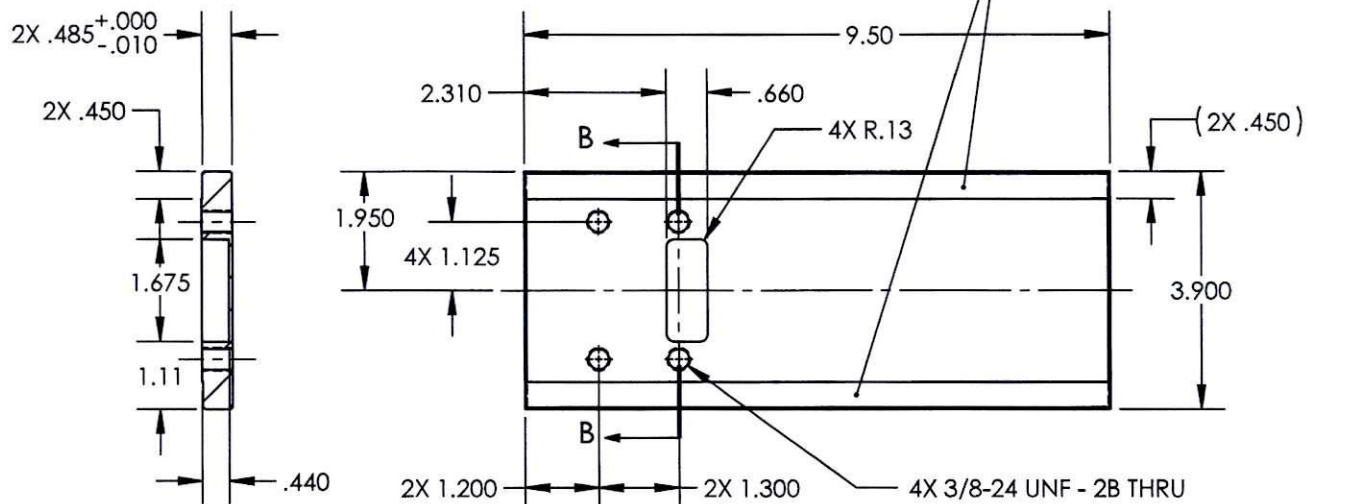


RBD3333-1
BASE PLATE

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3333-1	REV 2
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH POWDER COAT YELLOW	.XX ± .01 ANGLES ± 5°
SPEC FED #13538	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:3	DATE 3/15/2012 SHEET 11 OF 19

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
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				JAG

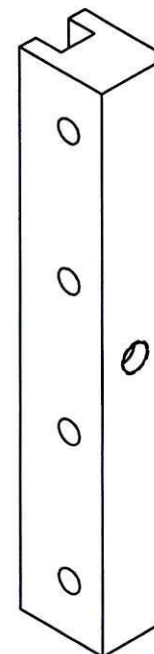
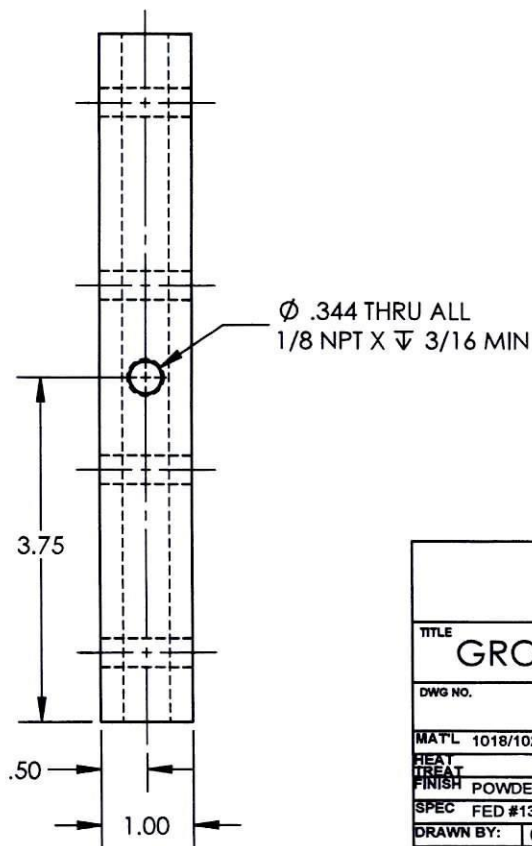
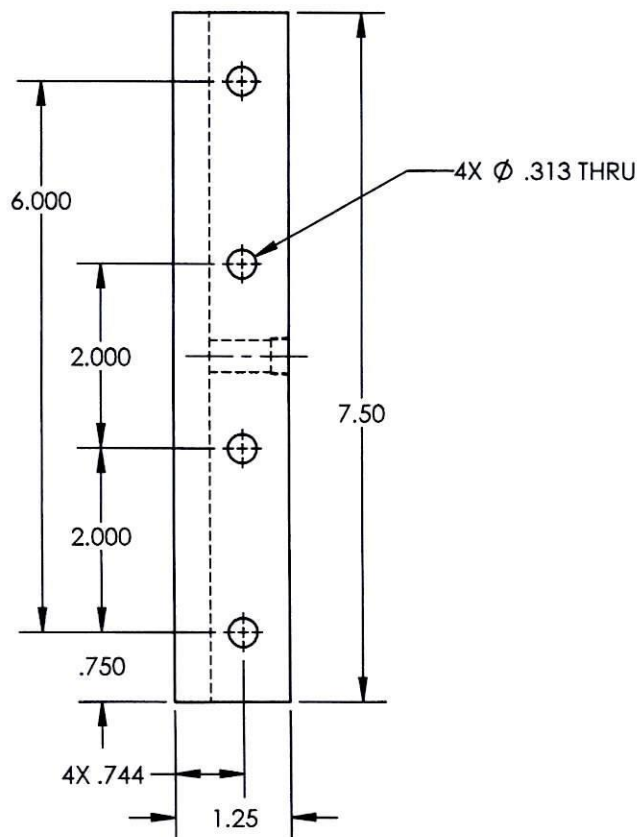
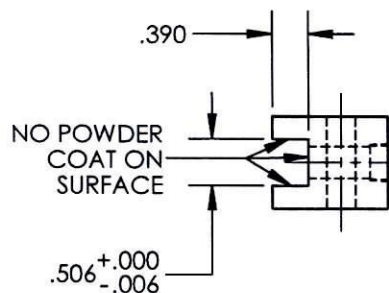


RBD3333-3
SLIDING PLATE

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3333-3	REV 2
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH POWDER COAT YELLOW	.XX ± .01 ANGLES ± 5°
SPEC FED #13538	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:3	DATE 3/15/2012
SHEET 12 OF 19	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-5 CH'D DIM WAS Ø.332 IS .344.	6/18/2014	RJC	GE
2	16-0039	RBD3333-5 CH'D DIM WAS Ø.334 IS Ø.344.	2/17/2016	SM	JAG

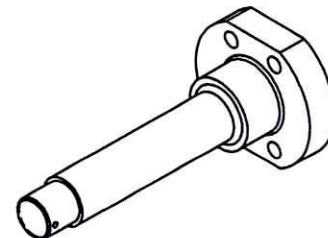
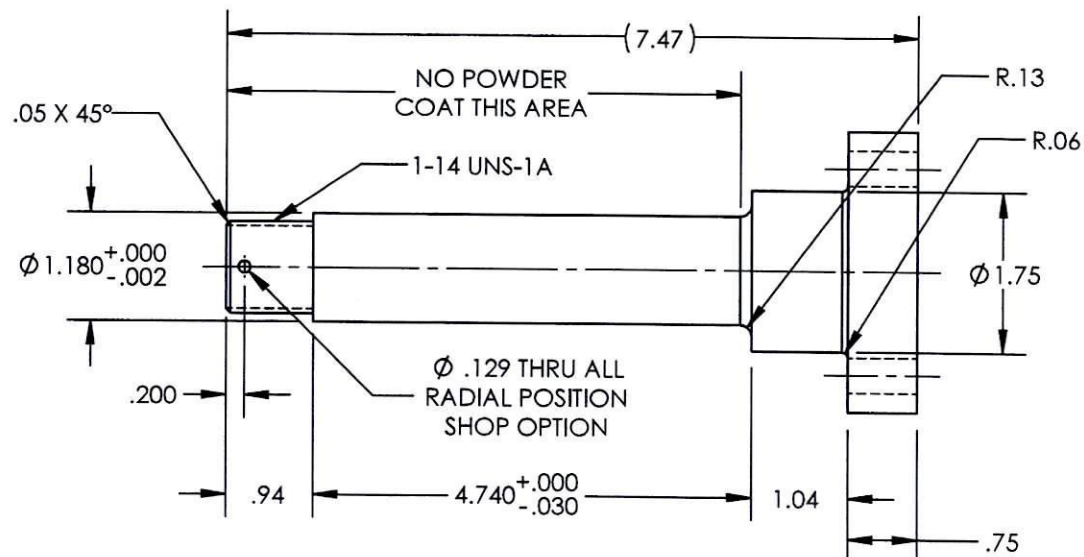
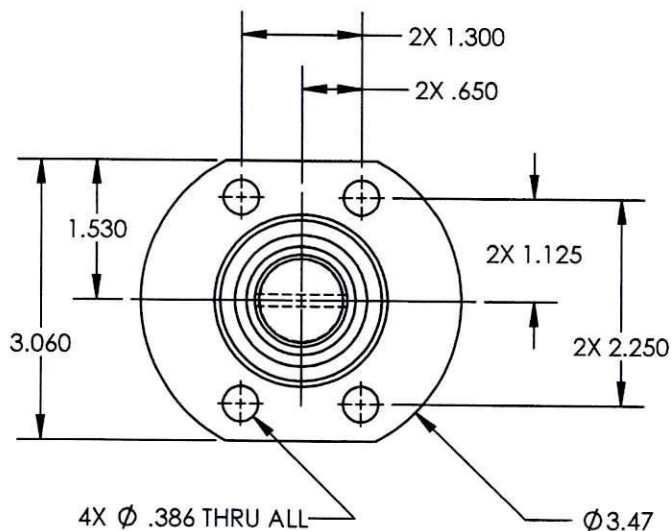


RBD3333-5
RAIL

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3333-5	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH POWDER COAT YELLOW	.XX ± .01 ANGLES ± 5°
SPEC FED #13538	.X ± .1 SURFACES = 125/√
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .016R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:2	DATE 3/15/2012 SHEET 13 OF 19

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
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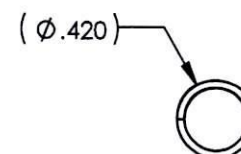
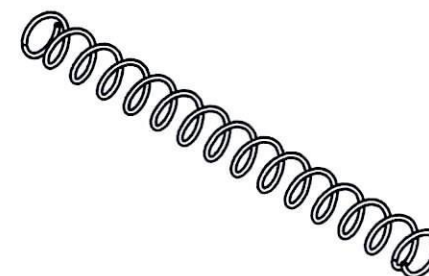
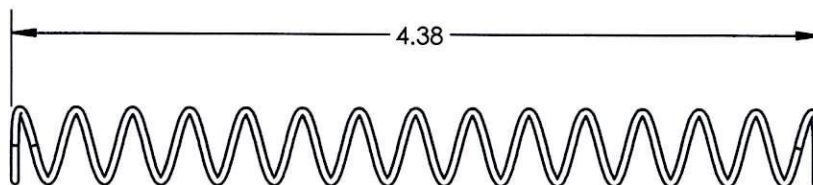


RBD3334-1
WHEEL SHAFT

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3334-1	REV 2
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH POWDER COAT YELLOW	.XX ± .01 ANGLES ± 5°
SPEC FED #13538	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:2	DATE 3/15/2012 SHEET 14 OF 19

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0039	RBD3335-3 MOVED TO NEW SHEET.	2/16/2016	SM	JAG

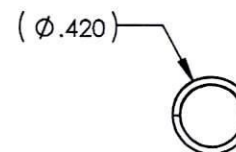
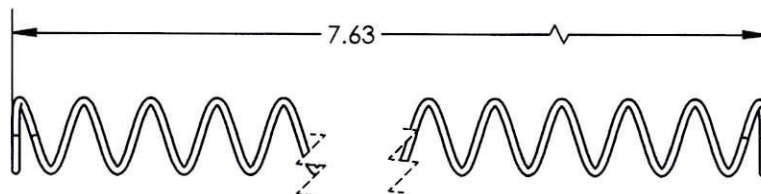
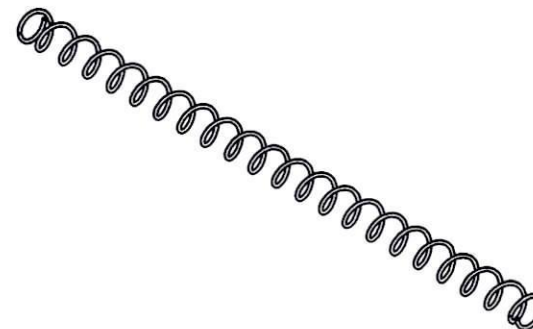


RBD3335-1
SPRING

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3335-1	REV 2
MAT'L STEEL	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH	.XXX ± .005 FRACTIONS ± 1/8
SPEC	.XX ± .01 ANGLES ± 5°
	.X ± .1 SURFACES = 125
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:1	DATE 3/15/2012 SHEET 15 OF 19

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0039	RBD3335-3 ADDED TO NEW SHEET.	2/16/2016	SM	JAG



TITLE
GROUND HANDLING WHEELS

DWG NO. RBD412-729-011
RBD3335-3

REV
2

MAT'L STEEL

HEAT

TREAT

FINISH

SPEC

DRAWN BY: GILBERT

CHECKED:

OPPS APPR:

QA APPR:

APPROVED: GILBERT

SCALE 1:1

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ± 5°
.X ± .1 SURFACES = 125/✓

1. BREAK ALL SHARP EDGES
.015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY
AFTER PLATING
3. INTERPRET DIM AND TOL PER
ASME Y14.5M-2009

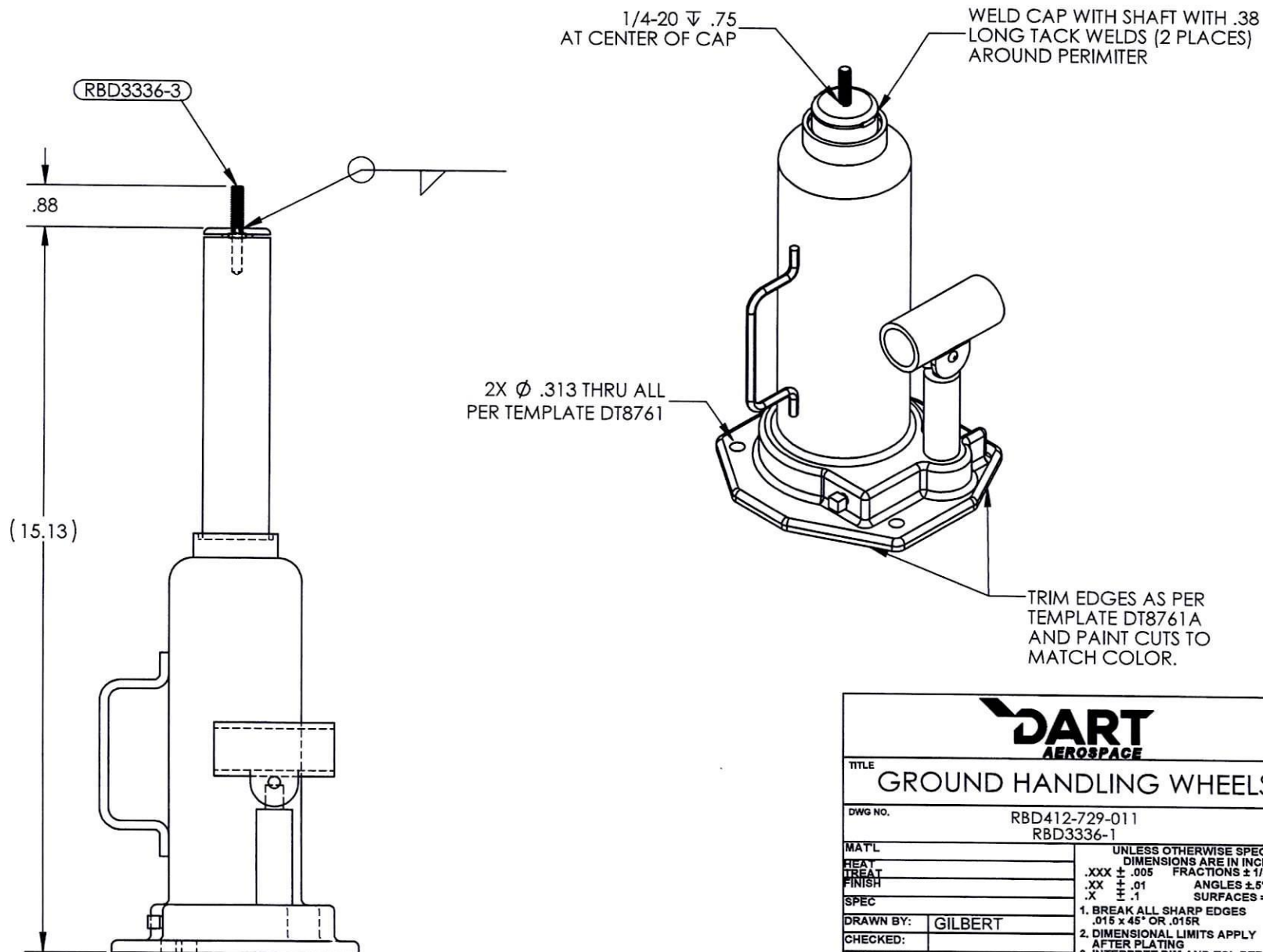
USED ON MODEL

DATE 3/15/2012

SHEET 16 OF 19

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



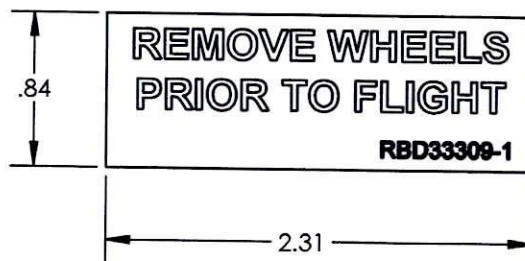
RBD3336-1

JACK

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3336-1	REV 2
MAT'L HEAT TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:3	DATE 3/28/2012 SHEET 17 OF 19

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0039	RBD3309-3 MOVED TO SEPERATE SHEET.	2/16/2016	SM	JAG



NOTE:

1) MATERIAL: BLACK LETTERS ON ADHESIVE BACK

DART AEROSPACE	
TITLE ROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3309-1	REV 2
MAT'L HEAT TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125°
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	
SCALE 1:1	DATE 3/15/2015 SHEET 18 OF 19

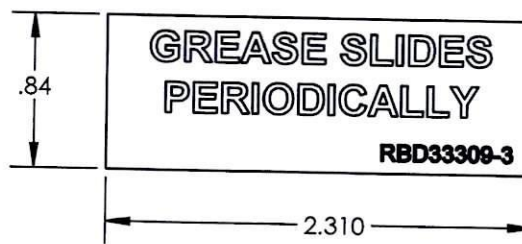
RBD3309-1

LABEL, REMOVE BEFORE FLIGHT

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REVIEWS							
REV	ECR	DESCRIPTION			DATE	INITIAL	APPROVED
2	16-0039	RBD3309-3 ADDED TO NEW SHEET.			2/16/2016	SM	JAG

**GREASE SLIDES
PERIODICALLY**
RBD3309-3

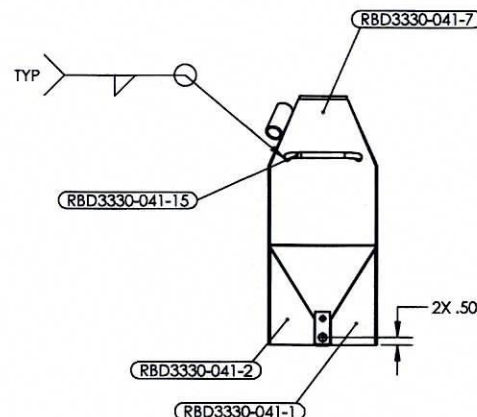
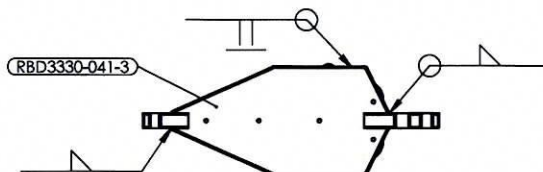
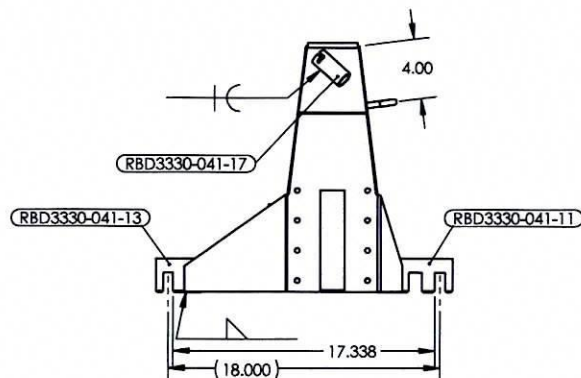
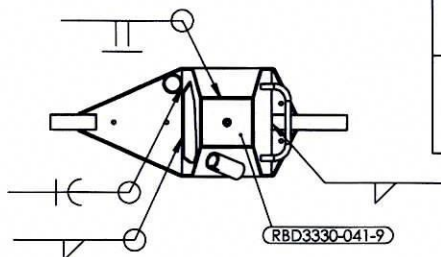


NOTE:

1) MATERIAL: BLACK LETTERS ON ADHESIVE BACK

DART AEROSPACE	
TITLE ROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3309-3	REV 2
MAT'L HEAT TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	USED ON MODEL
APPROVED: GILBERT	
SCALE 1:1	DATE 3/15/2015 SHEET 19 OF 19

RBD3309-3
LABEL, GREASE SLIDES



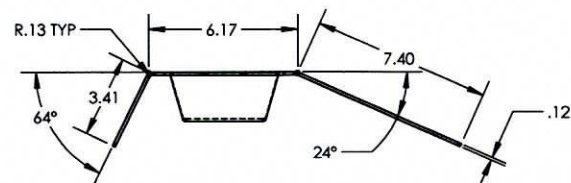
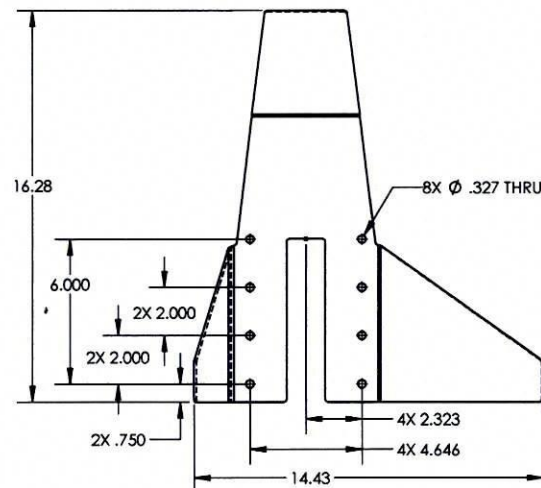
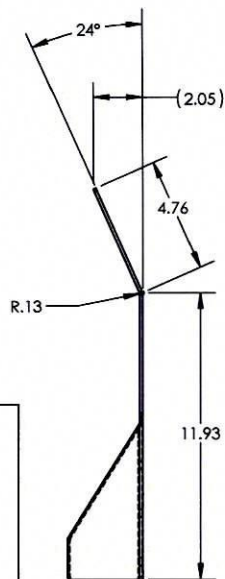
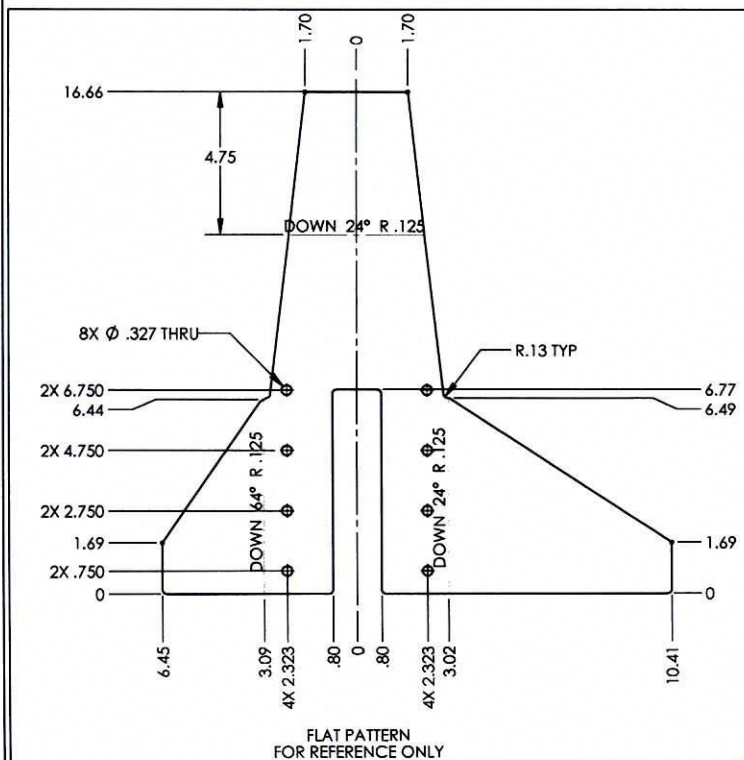
ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			RBD330-041-1	1	PANEL	1018/1020 CR		2
			RBD330-041-2	1	PANEL	1018/1020 CR		3
			RBD330-041-3	1	PLATE	1018/1020 CR		4
			RBD330-041-5	1	PLATE, FRONT	1018/1020 CR		5
			RBD330-041-7	1	PLATE, REAR	1018/1020 CR		6
			RBD330-041-9	1	TOP PLATE	1018/1020 CR		7
			RBD330-041-11	1	LONG PIN BRACKET	1018/1020 CR		8
			RBD330-041-13	1	SHORT PIN BRACKET	1018/1020 CR		9
			RBD330-041-15	1	HANDLE	1018/1020 CR		10
			RBD330-041-17	1	HANDLE SOCKET	HREW		11
			RBD330-041-19	1	HANDLE ARM	HREW		12

NOTE:
1. POSITION PARTS PER JIG D333-041T1.
2. USED ON BELL MODELS 204, 205, 212, 214,
412, UH1, 222, 230, & AH1.

			
TITLE GROUND HANDLING WHEEL			
DWG NO.		RBD412-729-011 RBD3330-041	REV 2
MATERIAL TEXT FINISH		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 10 .XX ± .03 ANGLES ± 1° .X ± .005 SURFACES ± .015	
SPEC FED 13538		1. BREAK ALL SHARP EDGES .015 X .65" OR .015"	
DRAWN BY: GILBERT		2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
CHECKED: CLOUGH		3. INTERPRET DIM AND TOL PER ASAP: ANDERSON	
QA APPR: LINDSAY		USED ON MODEL	
APPROVED: GILBERT		SEE NOTE 2	
SCALE	1:8	DATE	3/16/2012
		SHEET 1 OF 12	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
1		RBD3330-041-1 & -2 CHD DIM WAS .12 IS (.12).	6/18/2014	DPD	GE
2	16-0039	RBD3330-041-1 CHD DIM WAS 2.323 E 4X 2.323. REMOVED DIM 4.646. ADDED DIM 4X 2.323. RBD3330-042-2 MOVED TO SEPERATE SHEET.	2/11/2016	SM	JAG

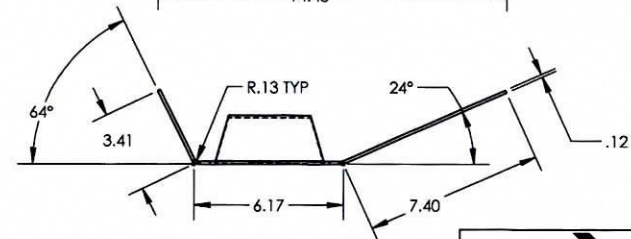
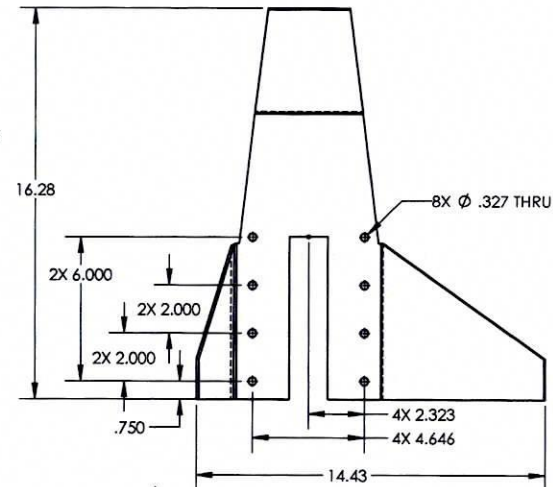
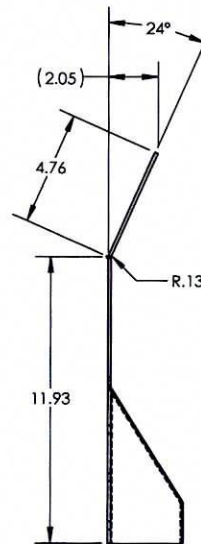
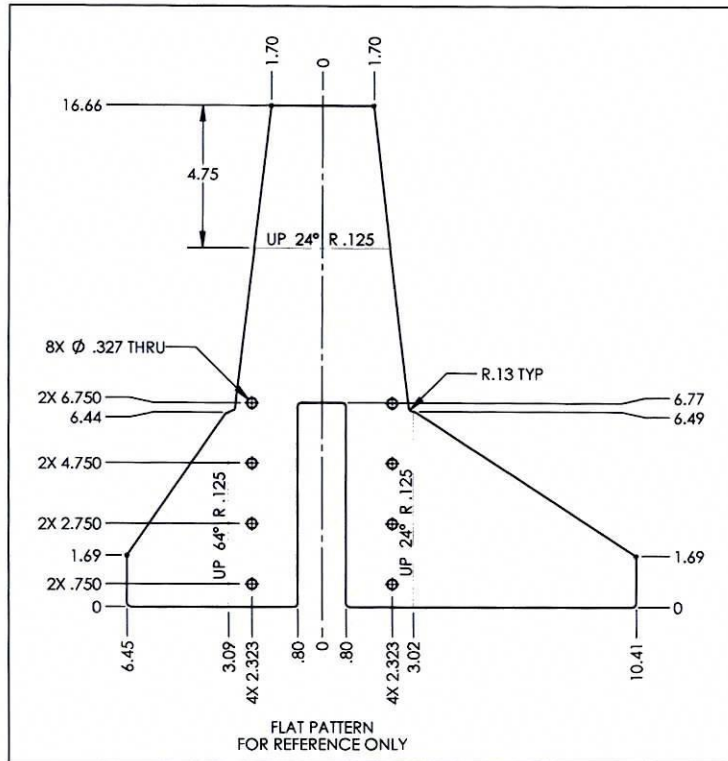


RBD3330-041-1
PANEL

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3330-041-1	REV 2
MATL 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FINISH SEE FRAME WELDMENT	XXX ± .010 FRACTIONS ± 1/8
	XXX ± .03 ANGLES ± 1°
	XXX ± .1 SURFACES ± .125
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY
QA APPR: ANDERSON	3. INTERPRET DIM AND TOL PER
APPROVED: LINDSAY	ASME Y14.5M-2009
SCALE 1:5	DATE 3/27/2015
SHEET 2 OF 12	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
2	16-0039	RBD3330-041-2 ADDED TO NEW SHEET.	2/11/2016	SM
				JAG

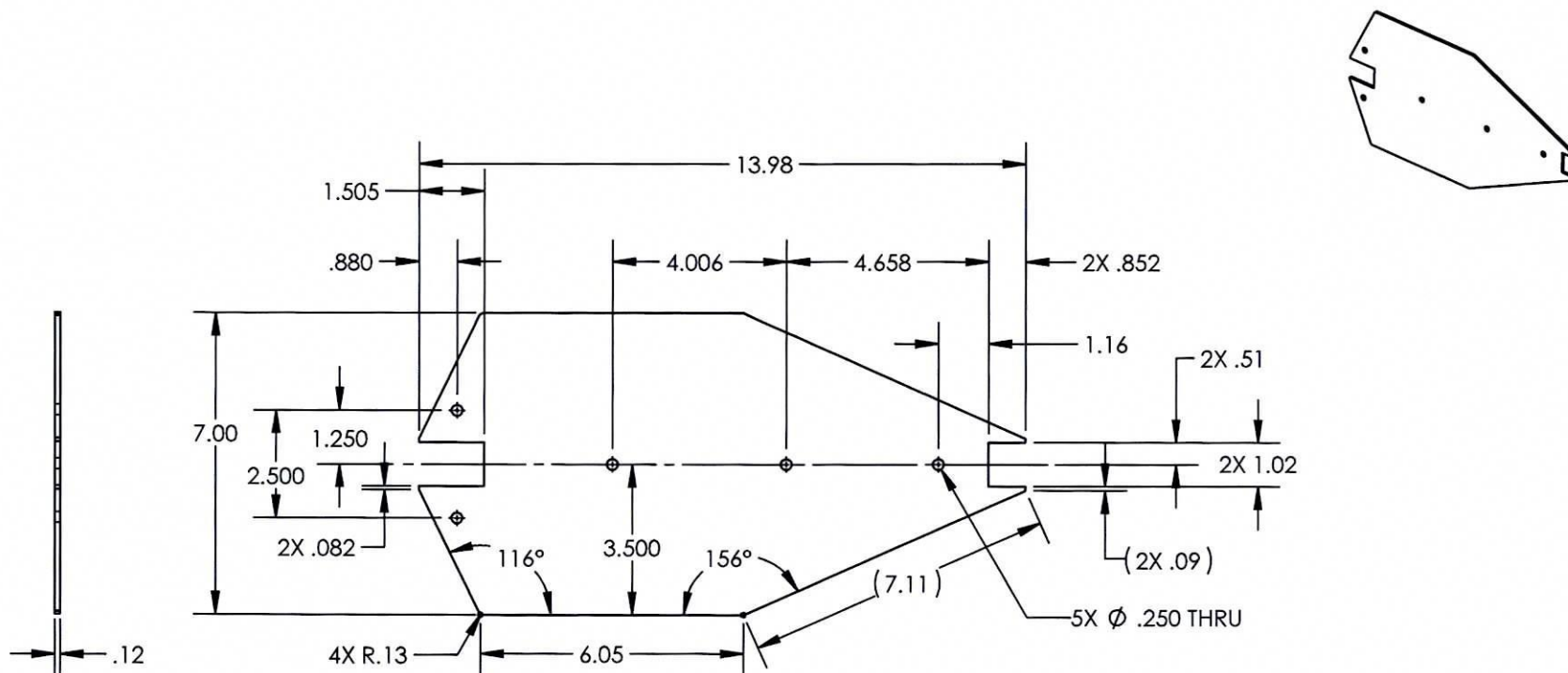


DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3330-041-2	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED
TEXT DRAFT FRESH SEE FRAME WELDMENT	DIMENSIONS ARE IN INCHES FRACTIONS ± 1/8 ANGLES ± 1° SURFACES ± .125
SPEC	1. BREAK ALL SHARP EDGES 2. DIMENSIONAL LIMITS APPLY 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DRAWN BY: GILBERT	CHECKED: CLOUGH
OPPS APPR: ANDERSON	QA APPR: LINDSAY
APPROVED: GILBERT	USED ON MODEL
SCALE 1:5	DATE 3/27/2015
SHEET 3 OF 12	

RBD3330-041-2
PANEL

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
2	16-0039	RBD3330-041-3 CH'D DIM WAS 7.11 IS (7.11), WAS .10 IS (2X .09), WAS .087 IS 2X .082, WAS 3.505 IS 3.500.	2/11/2016	SM	JAG

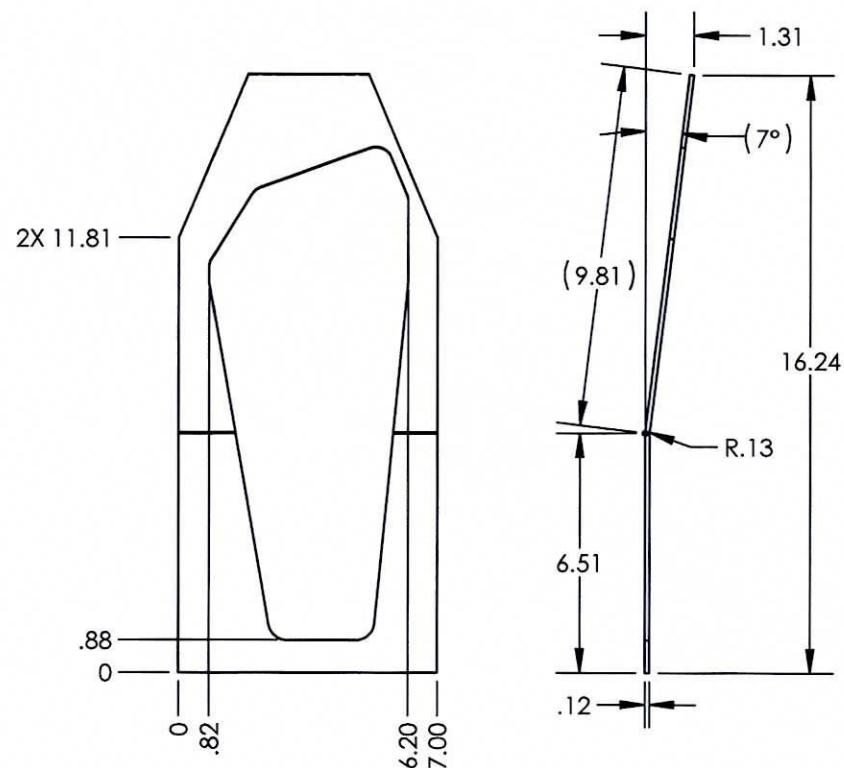
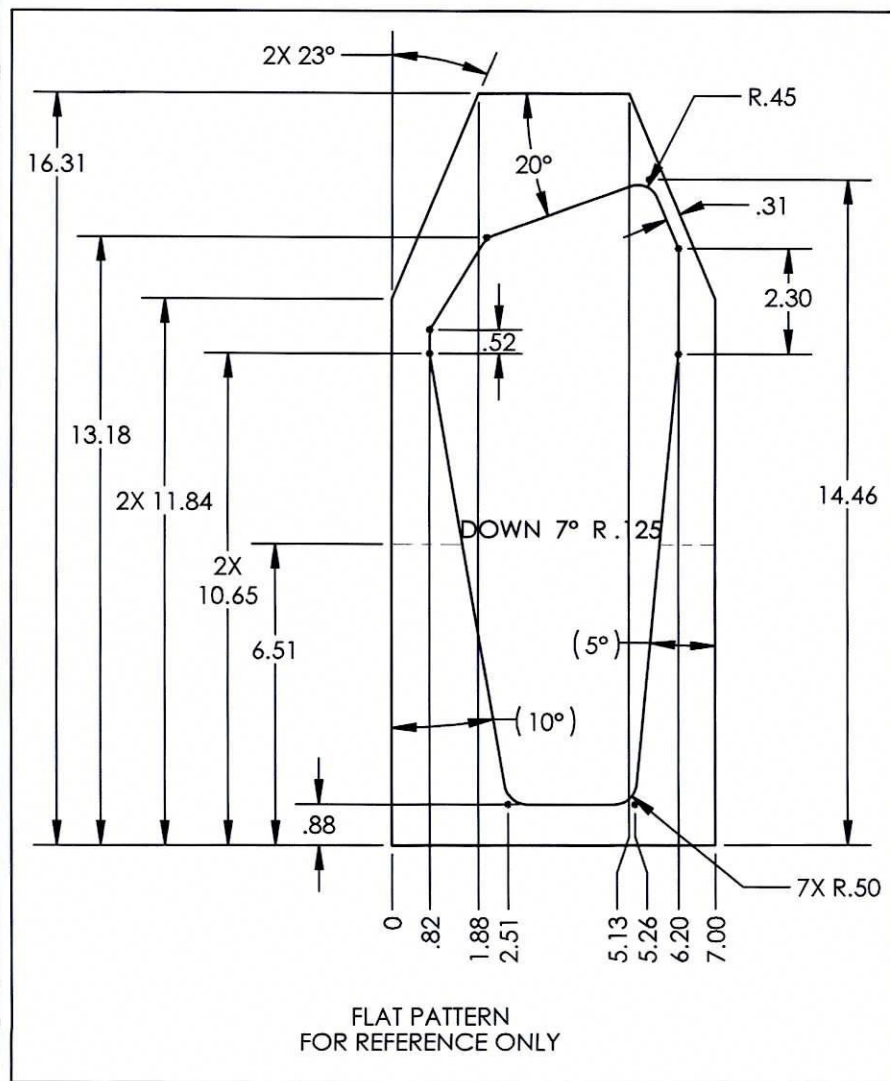


(RBD3330-041-3)
PLATE

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3330-041-3	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT SEE FRAME WELDMENT	.XXX ± .010 FRACTIONS ± 1/8
FINISH	.XX ± .03 ANGLES ± 1°
SPEC	.X ± .1 SURFACES = 125
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 ON SHT 1
SCALE 1:4	DATE 3/16/2012 SHEET 4 OF 12

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
1		RBD3330-041-5 ADDED MISSING DIM (.12), CH'D DIM WAS (16.24) IS 16.24.	6/18/2014	DPD	GE
2	16-0039	RBD3330-041-5 CH'D DIM WAS 9.81 IS (9.81), WAS 7° IS (7°), WAS 5° IS (5°), WAS 10° IS (10°), REMOVED 9.82.	2/11/2016	SM	JAG

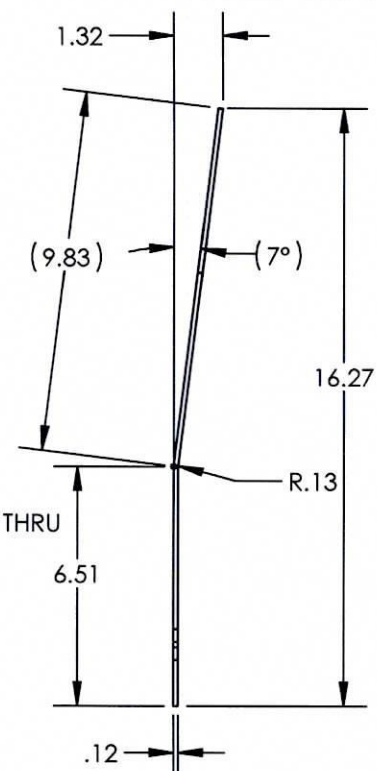
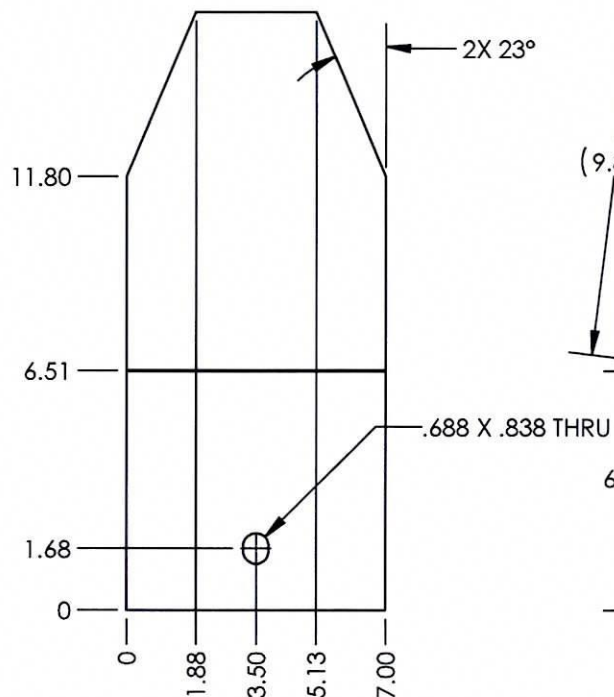
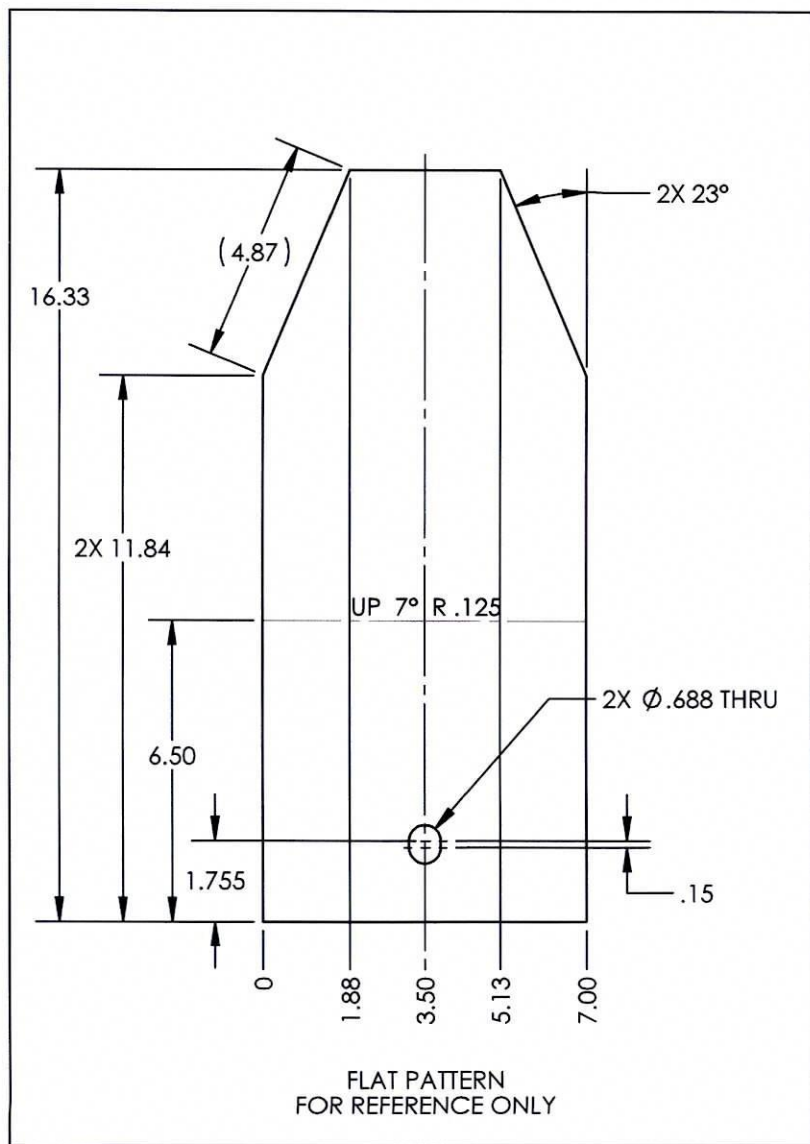


DART AEROSPACE	
TITLE: GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3330-041-5	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT SEE FRAME WELDMENT	.XXX ± .010 FRACTIONS ± 1/8
SPEC	.XX ± .03 ANGLES ± 1°
	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	
SCALE 1:5	DATE 3/16/2012 SHEET 5 OF 12

RBD3330-041-5
PLATE, FRONT

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
1		RBD3330-041-7 ADDED MISSING DIM (.12).	6/18/2014	DPD	GE
2	16-0039	RBD3330-041-7 CH'D DIM WAS 9.83 IS (9.83), WAS 7° IS (7°), WAS 3.49 IS 3.50.	2/11/2016	SM	JAG

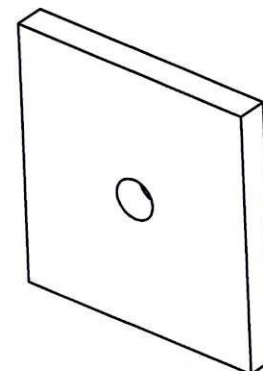
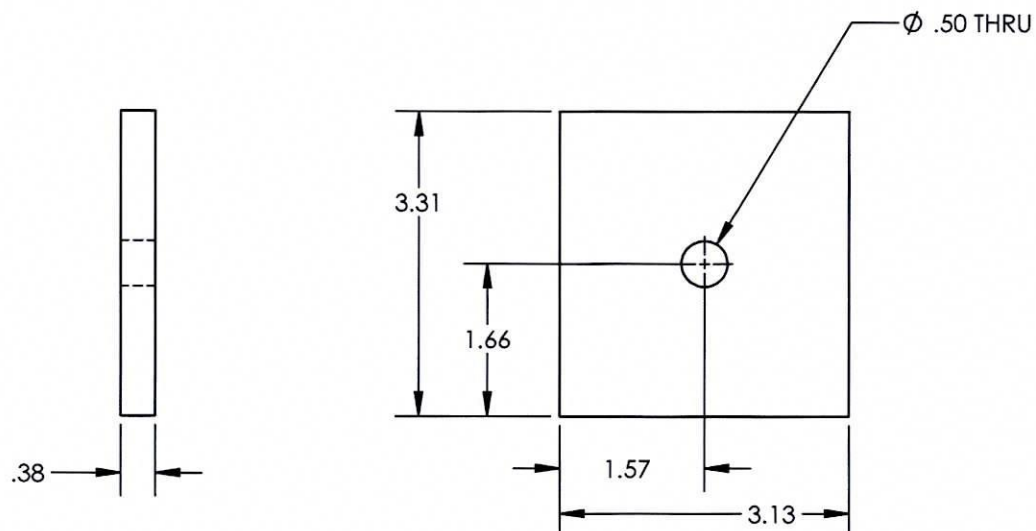


DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3330-041-7	REV
MAT'L 1018/1020 CR TREAT FINISH SEE FRAME WELDMENT SPEC DRAWN BY: GILBERT CHECKED: CLOUGH OPPTS APPR: ANDERSON QA APPR: LINDSAY APPROVED: GILBERT	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓ 1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009 USED ON MODEL	
SCALE 1:5	DATE 3/16/2012 SHEET 6 OF 12

RBD3330-041-7
PLATE, REAR

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	2/11/2016	JAG	

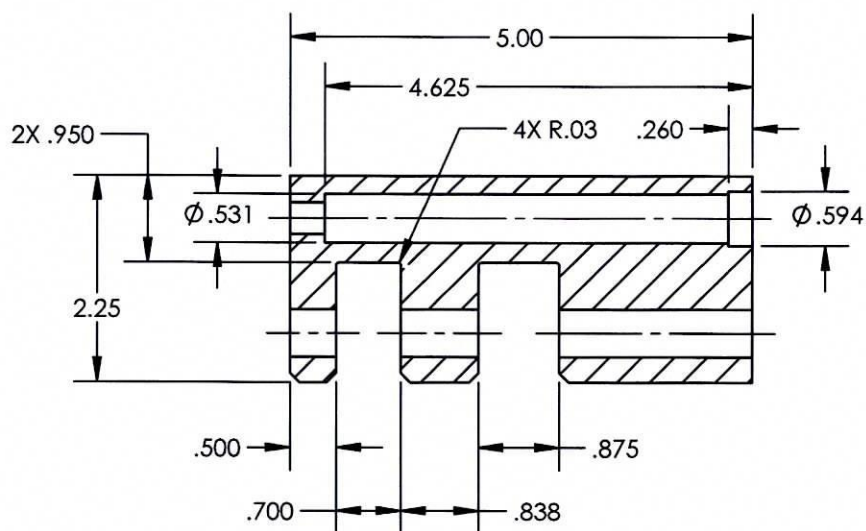
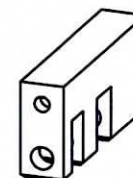


RBD3330-041-9
TOP PLATE

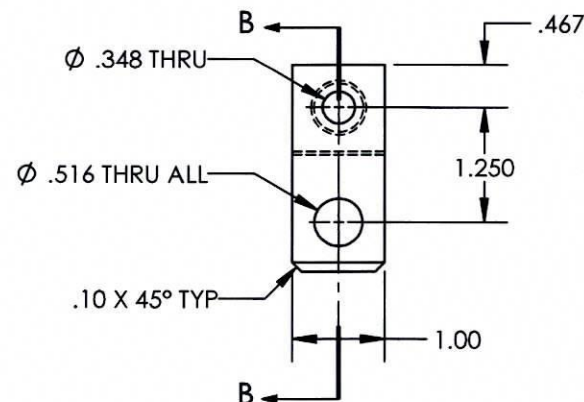
DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3330-041-9	REV 2
MAT'L 1018/1020 CR HEAT TREAT FINISH SEE FRAME WELDMENT SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT CHECKED: CLOUGH OPPS APPR: ANDERSON QA APPR: LINDSAY APPROVED: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009 USED ON MODEL SEE NOTE 2 SHT 1
SCALE 1:2	DATE 3/16/2012 SHEET 7 OF 12

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARDS	4/16/2012	JAG	
1		RBD3330-041-11 CH'D DIM WAS 1.00 IS (1.00).	6/18/2014	DPD	GE



SECTION B-B

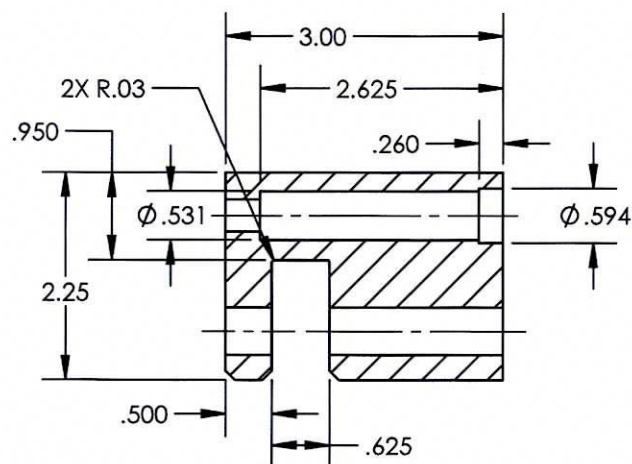
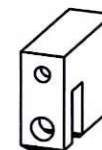


RBD3330-041-11
LONG PIN BRACKET

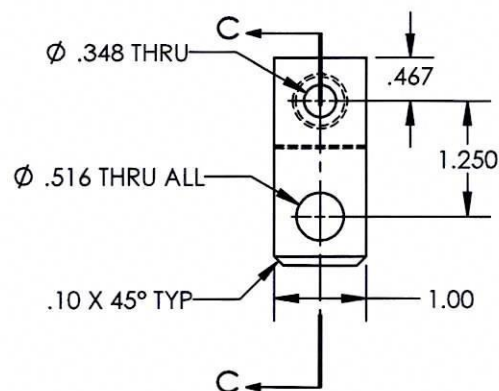
DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3330-041-11	REV 2
MAT'L 1018/1020 CR TREAT FINISH SEE FRAME WELDMENT SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:2	DATE 3/16/2012 SHEET 8 OF 12

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
1		RBD3330-041-13 CH'D DIM WAS 1.00 IS (1.00).	6/18/2014	DPD	GE



SECTION C-C

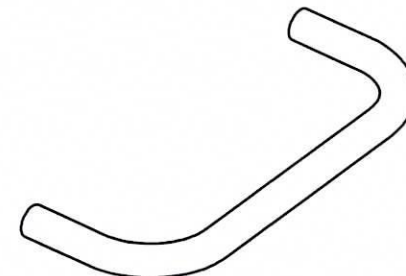
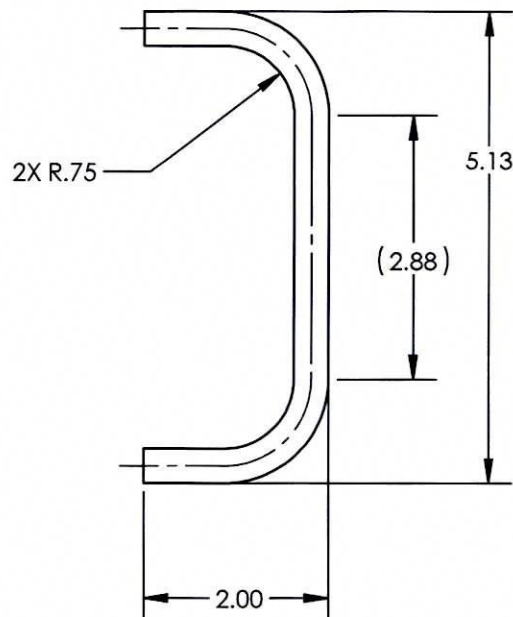
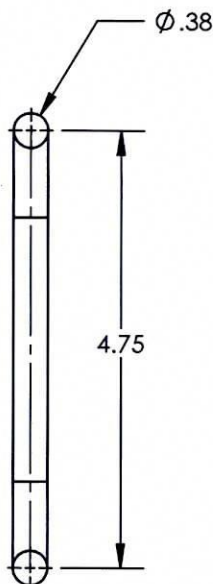


RBD3330-041-13
SHORT PIN BRACKET

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3330-041-13	REV 2
MAT'L 1018/1020 CR HEAT TREAT FINISH SEE FRAME WELDMENT SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125°
DRAWN BY: GILBERT CHECKED: CLOUGH OPPS APPR: ANDERSON QA APPR: LINDSAY APPROVED: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009 USED ON MODEL SEE NOTE 2 SHT 1
SCALE 1:2	DATE 3/16/2016 SHEET 9 OF 12

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
1		RBD3330-041-15 CH'D DIM WAS Ø.38 IS (Ø.38).	6/18/2014	DPD	GE
2	16-0039	RBD3330-041-15 CH'D DIM WAS (Ø.38) TO Ø.38.	2/11/2016	SM	JAG

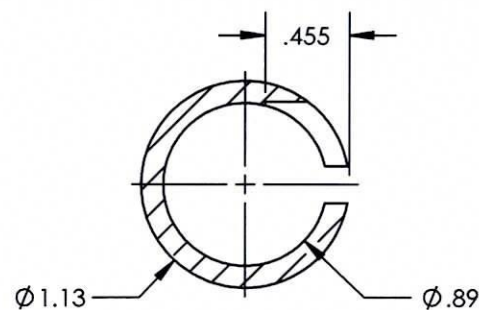
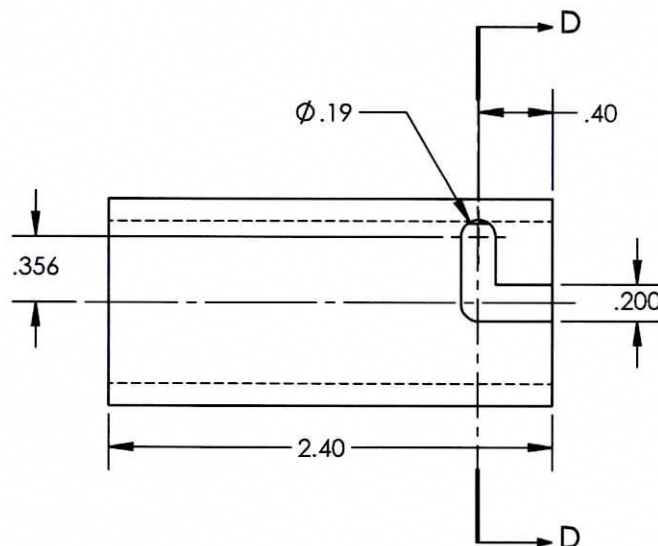


RBD3330-041-15
HANDLE

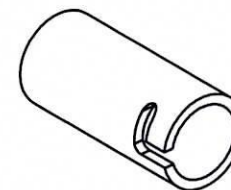
DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3330-041-15	REV 2
MAT'L 1018/1020 CR HEAT TREAT FINISH SEE FRAME WELDMENT SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:2	DATE 3/16/2012 SHEET 10 OF 12

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
1		RBD3330-041-17 CH'D DIMS WAS Ø1.13 IS (Ø1.13), WAS Ø.89 IS (Ø.89).	6/18/2014	DPD	GE
2	16-0039	RBD3330-041-17 CH'D DIM WAS (Ø1.13) IS Ø1.13, WAS (Ø.89) IS Ø.89. CH'D MATL WAS DOM IS HREW.	2/11/2016	SM	JAG



SECTION D-D

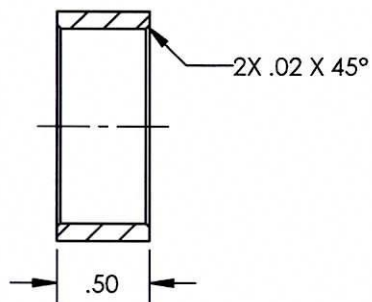


RBD3330-041-17
HANDLE RIM

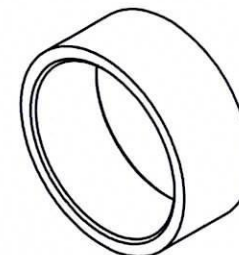
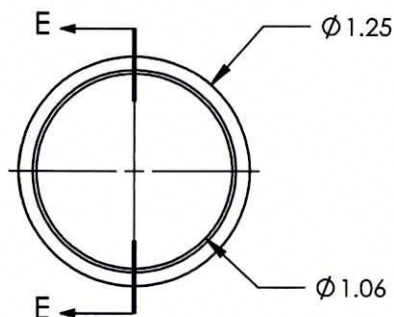
DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3330-041-17	REV 2
MATL HREW	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH SEE FRAME WELDMENT	.XX ± .01 ANGLES ± 5°
SPEC	.X ± .1 SURFACES = 125
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 2 SHT 1
SCALE 1:1	DATE 3/16/2012 SHEET 11 OF 12

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
1		RBD3330-041-19 CH'D DIMS WAS Ø1.31 IS (Ø1.25), WAS Ø1.075 IS Ø1.06.	6/18/2014	DPD	GE
2	16-0039	RBD3330-041-19 CH'D DIM WAS (Ø1.25) IS 1.25. CH'D MAT'L WAS DOM IS HREW.	2/11/2016	SM	JAG



SECTION E-E

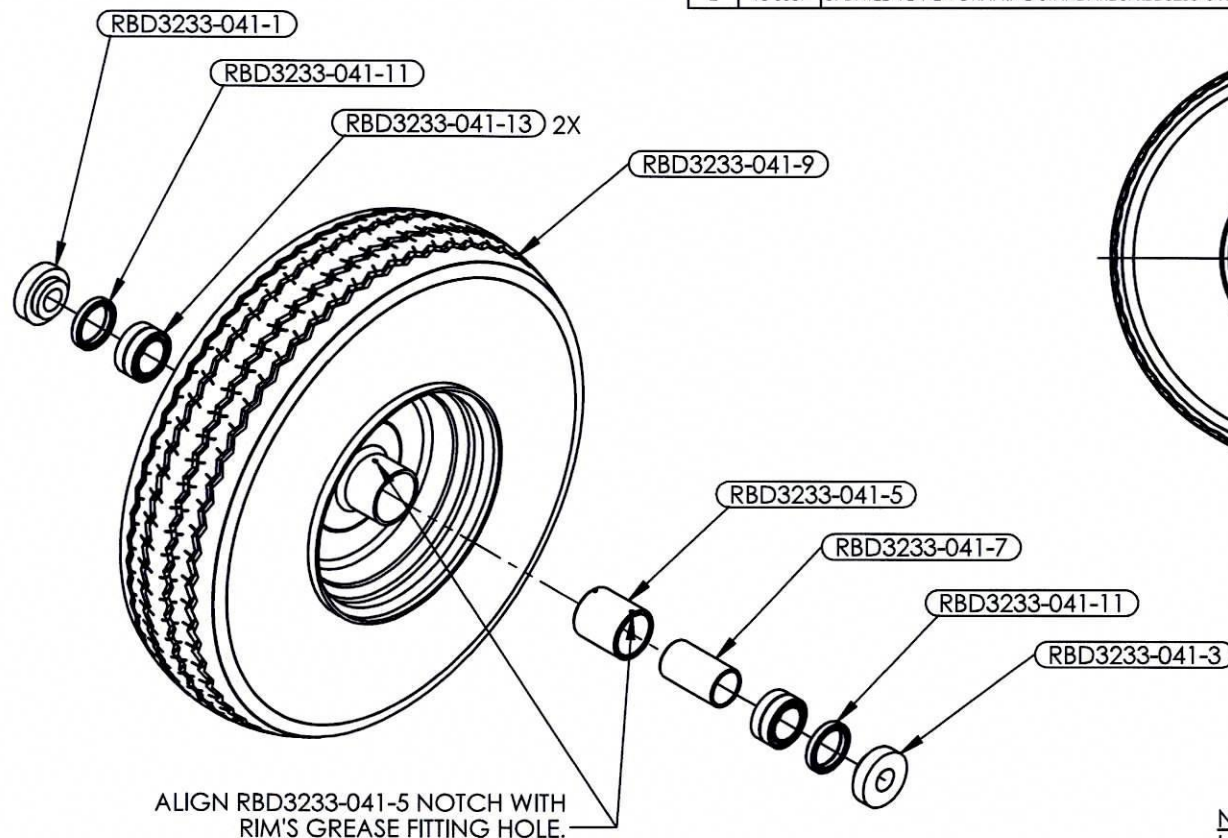


RBD3330-041-19
HANDLE ARM

DART AEROSPACE	
TITLE GROUND HANDLING WHEEL	
DWG NO. RBD412-729-011 RBD3330-041-19	REV 2
MAT'L HREW	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT	.XXX ± .005 FRACTIONS ± 1/8
TREAT	.XX ± .01 ANGLES ± 5°
FINISH SEE FRAME WELDMENT	.X ± .1 SURFACES = 125/✓
SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
DRAWN BY: GILBERT	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
CHECKED: CLOUGH	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
OPPS APPR: ANDERSON	USED ON MODEL
QA APPR: LINDSAY	SEE NOTE 2 SHT 1
APPROVED: GILBERT	
SCALE 1:1	DATE 3/16/2012 SHEET 12 OF 12

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
C		UPDATE TO NEW DRAFTING STANDARD	4/16/2012	JAG	
2	16-0039	UPDATED TO NEW DRAFTING STANDARDS. RBD3233-041-5 ADD DIM 2X FULL R.	2/15/2016	SM	JAG



WHEEL SPECIFICATIONS		
SIZE	MAX. LOAD	MAX. INFLATION PRESSURE
TIRE: 19.0 x 5.8 RIM: 5.70 x 8.0	910 lbs. (RANGE C)	90 psi*

* MANUFACTURER'S RECOMENDATIONS ARE 75 PSI FOR HIGH SPEED USE.

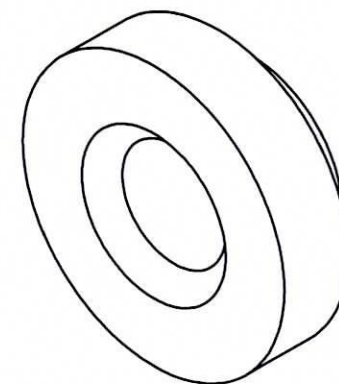
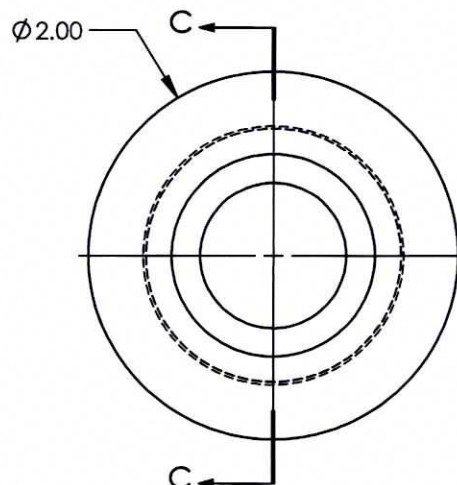
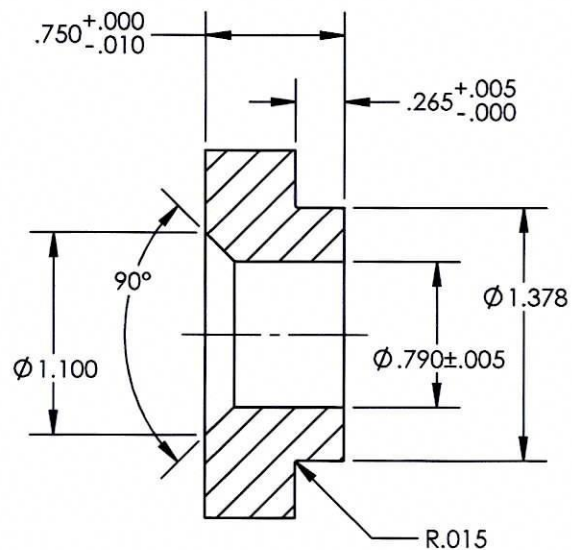
NOTE:
USED ON BELL MODELS 204, 205, 212, 214, 412, UH1, 222, 230, & AH1

DART AEROSPACE		
TITLE GROUND HANDLING WHEELS		
DWG NO.	RBD412-729-011 RBD3233-041	REV 2
MAT'L	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8	
FINISH	.XX ± .01 ANGLES ± 5°	
SPEC	.X ± .1 SURFACES = 125/✓	
DRAWN BY:	GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED:	CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR:	ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR:	LINDSAY	USED ON MODEL
APPROVED:	GILBERT	
SCALE	1:8	DATE 3/16/2012
		SHEET 1 OF 5

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			RBD3233-041-1	1	INSIDE WASHER	1018/1020 CR		2
			RBD3233-041-3	1	OUTSIDE WASHER	1018/1020 CR		3
			RBD3233-041-5	1	HUB SLEEVE	1018/1020 CR		4
			RBD3233-041-7	1	SHAFT SLEEVE	1018/1020 CR		5
		B/O	RBD3233-041-9	1	TIRE & WHEEL ASSY		MCMASTER-CARR # 8353188	1
		B/O	RBD3233-041-11	2	BEARING SEAL		TCM 35X45X7TC	1
		B/O	RBD3233-041-13	2	ROLLER BEARING		NKI 30/20	1

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



SECTION C-C

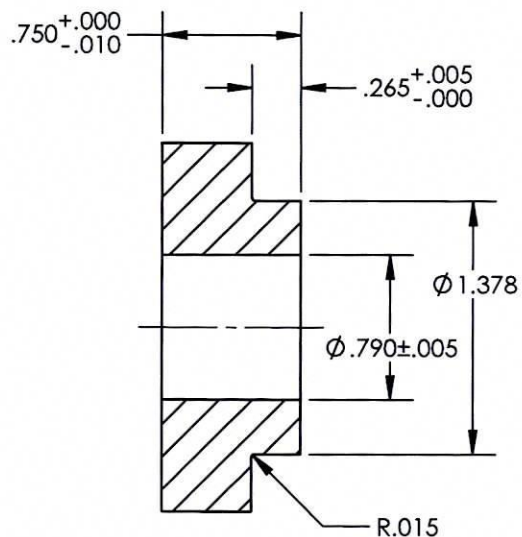
RBD3233-041-1

INSIDE WASHER

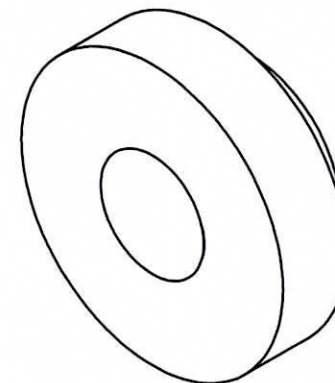
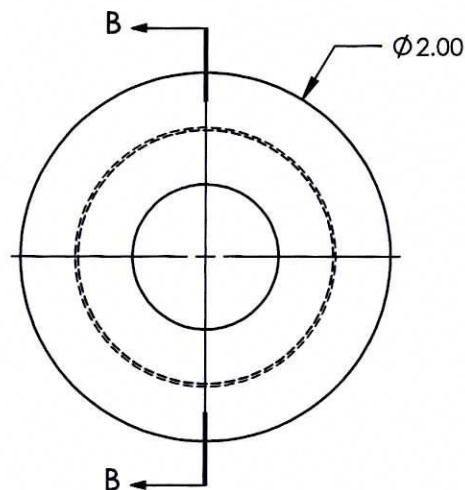
DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3233-041-1	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FINISH POWDER COAT YELLOW	.XXX ± .005 FRACTIONS ± 1/8
SPEC FED #13538	.XX ± .01 ANGLES ± .5°
DRAWN BY: GILBERT	.X ± .1 SURFACES = 125
CHECKED: CLOUGH	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
OPPS APPR: ANDERSON	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
QA APPR: LINDSAY	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
APPROVED: GILBERT	USED ON MODEL
SCALE 1:1	DATE 3/16/2012
SHEET 2 OF 5	

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REVISIONS			
REV	ECR	DESCRIPTION	DATE
			INITIAL
			APPROVED



SECTION B-B



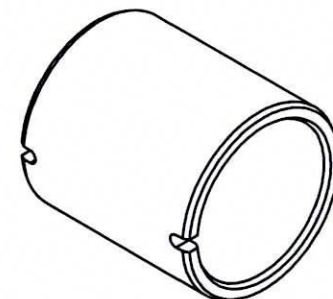
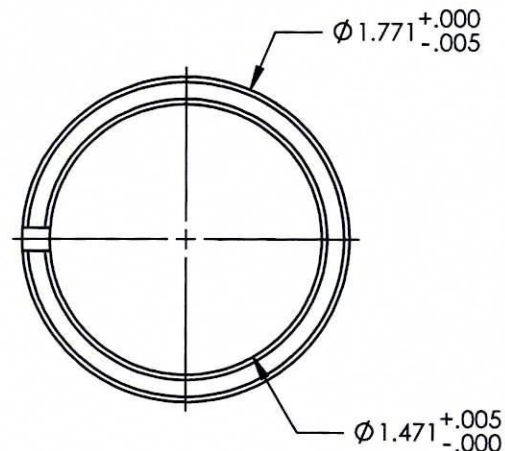
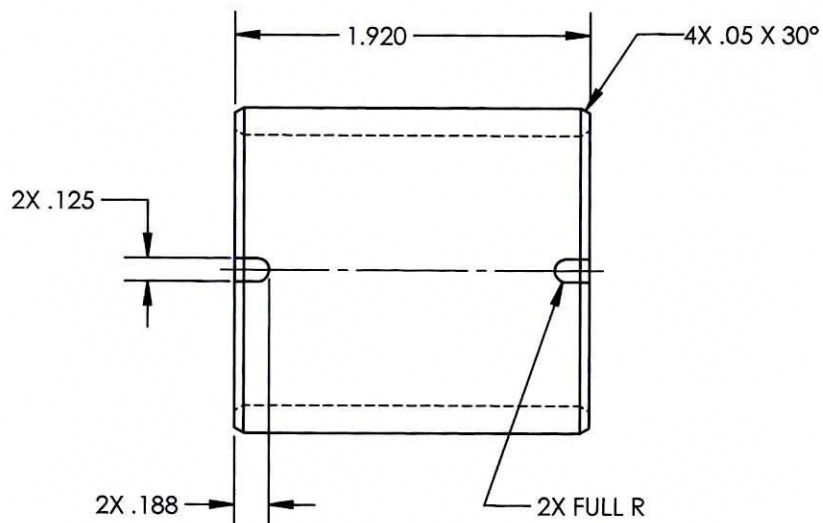
RBD3233-041-3

OUTSIDE WASHER

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3233-041-3	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH POWDER COAT YELLOW	.XX ± .01 ANGLES ± 5°
SPEC FED #13538	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	
SCALE 1:1	DATE 3/16/2012 SHEET 3 OF 5

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0039	RBD3233-041-5 ADD DIM 2X FULL R.	2/15/2016	SM	JAG



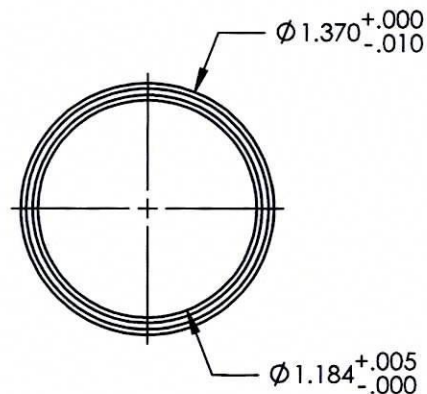
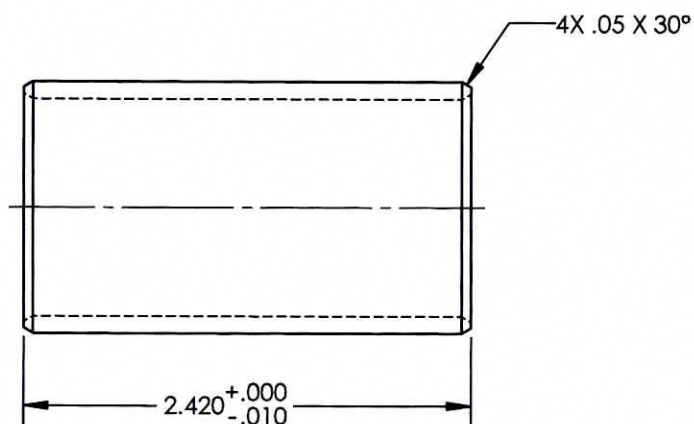
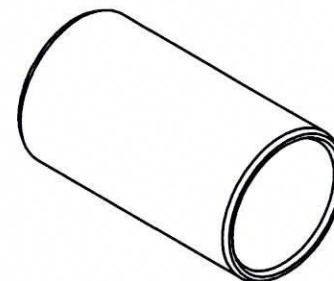
RBD3233-041-5

HUB SLEEVE

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3233-041-5	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT	.XXX ± .005 FRACTIONS ± 1/8
TREAT	.XX ± .01 ANGLES ± .5°
FINISH	.X ± .1 SURFACES = 125/✓
SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .016R
DRAWN BY: GILBERT	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
CHECKED: CLOUGH	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
OPPS APPR: ANDERSON	USED ON MODEL
QA APPR: LINDSAY	SEE NOTE 1 SHT 1
APPROVED: GILBERT	
SCALE 1:1	DATE 3/16/2012 SHEET 4 OF 5

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REVISIONS			
REV	ECR	DESCRIPTION	DATE



(RBD3233-041-7)

SHAFT SLEEVE

DART AEROSPACE	
TITLE GROUND HANDLING WHEELS	
DWG NO. RBD412-729-011 RBD3233-041-7	REV 2
MAT'L 1018/1020 CR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH	.XX ± .01 ANGLES ± 5°
SPEC	.X ± .1 SURFACES = 125/✓
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	SEE NOTE 1 SHT 1
SCALE 1:1	DATE 3/16/2012 SHEET 5 OF 5